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**Quality Assurance and Innovation:  
Case Studies of Massive Open Online Courses in UK Higher Education**

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A thesis submitted for the degree of Doctor of Philosophy

University of Bath  
School of Management

Supervisors:  
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August 2018

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## **List of Abbreviation**

APC	Academic Practice Committee
DBIS	Department for Business Innovation and Skills (DBIS)
DfE and BIS	Department for Education and the Department for Business, Innovation and Skills
HeLF	Heads of eLearning Forum
LME	Local Ministries of Education
MOOCs	Massive Open Online Courses
NAHE	National Agency for Higher Education
TQM	Total Quality Management
QA	Quality Assurance

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## **Abstract**

Quality assurance is a common concern in a wide variety of organisations, and there is a large body of literature specific to quality management (including quality assurance) in higher education. Literature from the wider field of management research is ambiguous with respect to the relationship between quality management and innovation, with some arguing that quality management supports innovation while others claiming it is a hindrance. This study focuses on the relationship between quality assurance and technological innovation in higher education, specifically the development of Massive Online Open Courses (MOOCs) at institutions in the United Kingdom. Using a multiple case study approach, it investigates the relationship between innovation and quality assurance in this context. In addition to formal quality assurance procedures, it also examines the role of organisational culture, a particularly important factor in universities.

Analysis of interviews and documents shows that quality assurance doesn't support innovation; most universities use a lighter approach to the quality assurance of MOOCs that focuses on technical requirements rather than academic quality. Furthermore, the organisational culture of many universities focuses on the quality of conventional in-person courses, but less on new innovation like MOOCs. The particular characteristics of MOOCs (e.g. diverse learners, light content) make the application of existing quality assurance procedures difficult. Finally, analysis shows that the most relevant quality approach for MOOCs is a combination of the conventional approach to quality assurance in higher education and a new quality assurance approach that takes into consideration the characteristics and features of MOOCs.

This research contributes to bridging gaps in the literature on technological innovation and provide unique insights into the relationship between quality management and innovation in higher education, which has not been well studied empirically. The research also contributes to establishing a clearer understanding of how organizational culture influences quality assurance in the context of sudden change and innovation. For practitioners, it aims to provide empirical evidence to the ongoing debates about MOOCs that seem to reflect limited knowledge and experience of these innovations, and aids the development of broader lessons about the quality assurance of MOOCs. It allows higher education institutions to understand the interplay and integration between conventional programmes and new educational

technologies such as MOOCs. The findings of the study therefore provide suitable empirical evidence to support a cogent argument about the capabilities and qualifications of MOOCs in higher education with regard to quality assurance, further defining the role of MOOCs in higher education.

## **Chapter 1: Introduction and the Context of Study**

### **1.1 Overview**

The aim of the thesis is to contribute to the emerging debate on the relationship and interplay between innovation and quality management. It explores how innovation and quality assurance interact in organisations, using Massive Open Online Courses (MOOCs) as a context to understand this phenomenon. There are significant arguments about the relationship between quality management (including quality assurance) and innovation which some studies indicate that quality management supports innovation (Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Lee, 2015). Others have questioned this relationship, suggesting quality assurance may inhibit innovation (Hoecht, 2006; Cole and Matsumiya, 2007, Marcy, 2014). Literature also indicates the importance of understanding higher education culture that may influence the implementation of quality management.

As a new innovation, MOOCs may promote several positive changes and “might offer inspiration for higher education providers” (Hayes, 2015: 2), and also help to produce “hybrid courses” with campus-based higher education (Daniel et al., 2015). In the UK, for example, FutureLearn has announced that the number of learners who have joined its courses (up to the end of June 2018) is 7,945,994 (FutureLearn, 2018). This suggests that MOOCs not only provide important theoretical insights but are also an issue of practical importance in contemporary higher education.

### **1.2 UK Higher Education’s Features and Quality Assurance**

The UK higher education system is one of the most important in the world; it attracts hundreds of thousands of international students annually (Burnes et al., 2013). Higher education in the UK has witnessed dramatic changes over the past two decades, and quality management, in this context, “has become a central mechanism in the management of institutional change in higher education” (Brennan and Shah, 2000). The growth in student numbers and the development of an ideological approach to public services reflect “new managerialism” in UK higher education. The power of new managerialism can introduce new information

technology applications in order to monitor research outputs, and support management of student data (Waring and Skoumpopoulou, 2013).

The lead governmental body with responsibility for the quality assurance of higher education in the UK today is the Quality Assurance Agency (QAA). It was established in 1997, after the Higher Education Quality Council, for quality audit processes in higher education institutions (Lucas, 2014). Jackson and Bohrer (2010) believe that there has been a change in focus. They note that in the previous two decades, quality assurance focused on detailed scrutiny of both institutions and subjects, followed by institutional autonomy and self-regulation. The current period, however, has been affected by policies that aim to increase regulation and accountability in the sector.

The distinguishing features of QAA are design, organisation and content of curricula, teaching, learning and assessment, student progression and achievement, student support and guidance, learning resources, and quality management and enhancement (Storr and Hurst, 2001). However, other agencies of quality assurance in the world seem to adopt different standards according to their objectives regarding the institutions of higher education.

Quality assurance for the UK's higher education system primarily focuses on students; "QAA has a very strong record of student engagement" (McClaran, 2010: 112). This engagement can be seen in several aspects, such as meetings between students, review teams, and introduction of student auditors. Moreover, students can give the QAA clear feedback about crucial points, such as learning and teaching styles used, and student satisfaction rates (ibid). Students also contribute to assessing the effectiveness of quality systems in UK higher education as the QAA have included student feedback in the audit process alongside staff (Jackson and Bohrer, 2010).

The QAA today is relatively flexible with new innovations and technologies. Despite many studies criticising the quality of MOOCs (Margaryan et al., 2015; Langen and Bosch, 2014), the QAA seems keen to harness new technological innovations that are expected to be a part of campus-based higher education.

*We welcome the development of Massive Open Online Courses (MOOCs) as an innovation*



*with great potential to widen participation and promote lifelong learning .... MOOC providers will be welcome to cite them in their self-evaluation documents as examples of pedagogical development (QAA, 2014:1).*

Thus, the quality assurance system in the UK, represented by QAA, could be more than a control and audit mechanism for new technologies in the UK. It could contribute to the drawing up of quality plans and the monitoring of new developments in higher education. The QAA does not rule out supporting MOOCs and, at the same time, commitment to standards of quality assurance.

Internal moderation and external examiner are critical features in UK higher education employed to ensure fair and even assessment. Internal moderation is described as “a process separate from that of marking and provides assurance that assessment criteria have been applied appropriately, reflecting the shared understanding of the markers, and an approach which enables comparability across academic subjects” (QAA, 2016a: 20). The external examiner system in British higher education could be one of the most unique features of its higher education system (Dill and Beerken, 2012). In this context, the QAA describes external examiners in UK higher education as follows:

*External examining provides one of the principal means for maintaining UK academic standards within autonomous higher education providers. External examining is therefore an integral and essential part of institutional quality assurance” (QAA, 2016b: 5).*

Further teaching and learning is one of the core functions of universities in the UK. This set of activities is undergoing rapid change, as new methods of teaching and learning offer more possibilities of studying without direct instruction from teachers. The QAA states that “learning and teaching activities and associated resources provide every student with an equal and effective opportunity to achieve the intended learning outcomes” (QAA, 2013: 6). The UK’s professional standards emphasise that staff involved in delivering all programmes must demonstrate knowledge and understanding of how students learn (Wareing, 2009).

### **1.3 ELearning in UK Higher Education**

ELearning is an important component in technological innovation in higher education. It refers to “any learning facilitated by electronic means for digital content delivery, digital collaboration, and virtual classrooms via the Internet” (Kim et al., 2012a: 576). Many universities have, in recent decades, adopted blended learning approaches that combine both conventional learning and technology-mediated learning (Kirkwood and Price, 2005; Flavin and Quintero, 2018). In this way, learners can be more flexible in their interaction with educational resources. However, eLearning is still in development, and not without problems. Zaho (2003) suggests that online learning itself tends to be much more complicated and increases gaps with campus-based learning, such as lack of interaction between teachers and students, and the difficulty of identifying the real needs of learners. Jara and Mellar (2010) reveal that the features of eLearning in the UK represent a challenge for quality assurance, and therefore, the use of eLearning should adapt to procedures of quality assurance that are obviously designed for campus-based courses.

Furthermore, e-assessment offers an alternative to traditional assessment methods. Nicol (2007) reports that the increase of student numbers in higher education pushes institutions to find a suitable way to assess larger cohorts. However, Walker et al. (2008) declare that expectations and perceptions of students in relation to e-assessment seem unclear in strategies of learning in the UK. Stödborg (2012) writes that there were only a few examples of e-assessment use that were suitable methods for both formative and summative assessment.

Peer assessment is one of the mechanisms of quality assurance that is used to measure the efficiency of higher education processes, and also used as a main way to assess MOOCs' learners. Peer assessment can be defined as “an arrangement for learners to consider and specify the level, value, or quality of a product or performance of other equal-status learners” (Topping, 2009: 20). This type of assessment can be used as a social control assessment tool. It is a learning tool which also expresses students' levels of coherence and engagement with the educational process (Gielen et al., 2011), and it also helps in assessing quality, and identifying aspects of improvement (Loureiro, 2012).

## **1.4 MOOCs in the UK Higher Education Institutions**

This section highlights the background on MOOCs in higher education and the quality assurance of MOOCs in the UK institutions.

### 1.4.1 Background on MOOCs

The early attention about MOOCs emerged from the idea that these courses can be a relevant solution to the challenge of the global massive demand on education (Laurillard 2016). MOOCs also arose as a result of perceived shortcomings in the quality of distance education and developed through an increase in expertise in using distance learning and open education (Clarke, 2013). However, one of the main differences between MOOCs and traditional online courses more generally is that MOOCs are available to any learner, and they are under open access agreements, whereas most online courses are not available to learners who are not enrolled at a particular institution (Burd et al., 2015).

The first MOOC was created by George Siemens and Stephen Downes entitled “Connectivism and Connected Knowledge” in 2008, which offered free participation for an unlimited numbers of learners (Cormier and Siemens, 2010; Ng’ambi, 2015; Golie, 2016). This course attracted over 2000 worldwide learners (Goldie, 2016), enhancing the interaction between participants and starting a new revolution in online education around the world (Krause and Lowe, 2014). Siemens and Downes consider the MOOC as a form of pedagogical method, in which learners use digital platforms to find the courses, such as blogs, wikis, social media platforms and learning communities. In this context, connectivism is described as one of the most prominent approaches to learning networks, which designed specifically for online publication and eLearning environments (Goldie, 2016). Most MOOCs are at the level of introductory undergraduate level or provide general public knowledge (Burd et al., 2015).

There is a consensus that MOOCs emerged in different context with diverse purposes and outcomes (Ng’ambi, 2015). MOOCs as “large-scale initiatives in the provision of online courses” can be divided into cMOOCs and xMOOCs according to facilities and capabilities (Clarke, 2013: 404). These two types describe approximately 4,000 MOOC programmes worldwide. cMOOCs are “based on the pedagogical principles of connectivism” (Daniel et al., 2015: 65), and seeking the expansion of ideas through participation and interactive seminars (Perna et al., 2014). xMOOCs simulate the traditional class, and are “hyper-centralised and typically focused around a set of short, modularised video-lectures”

(Margaryan et al., 2013: 77). However, although there is no possibility of rejecting anyone applying to MOOCs because there is no requirement for registration in MOOCs (Burd et al., 2015), MOOCs described as threat to conventional higher education (Ng'ambi, 2015).

At the present, there are several platforms that manage MOOCs and attract millions of users around the world (Cusack, 2014). The largest MOOC platforms in the USA are Coursera, edX, and Udacity. The Coursera platform claims to promote “enlightened pedagogy”, and can provide quick feedback to increase the understanding of students. Udacity’s platforms announced that “The lecture is dead” and the alternative lies in new technologies, such as project-based exercises and videos. EdX’s declares that its requirements do not exceed simply connecting computers to the web (Clarke, 2013). OpenUp Ed is a main platform in the European Union countries, supported by the European Commission and fed by the group of European Universities to provide MOOCs for educational courses (Goldie, 2016). In the UK, FutureLearn is one of the main platforms that provide learners with free online courses from 143 partners (up to the end of June 2018), including many of “the best UK and international universities”. These courses can deliver “anything” in “any time” to learners “anywhere” (FutureLearn, 2016).

#### 1.4.2 MOOCs and Quality Assurance in the UK

Despite criticisms of MOOCs, British universities have developed and offer these programmes. For example, the University of Edinburgh considers MOOCs to be one of its “strategic priorities” to support teaching and learning (Macleod et al., 2015). In Fact, the Heads of eLearning Forum (HeLF) has created a steering group of MOOCs’ activities in the UK, and there are many universities listed as members of the steering group, as well as more than 140 “nominated Heads” from these institutions who participate in the activities of eLearning and aspire to enhance technologies of learning (HeLF, 2016). However, in reviewing the findings of the steering group, it appears that MOOCs confront both technical and educational challenges. For instance, Davis (2014) finds that MOOCs have a limited impact pedagogically due to characteristics like the use of short videos, self-evaluation, absence of “conversational framework”, as well as the use of formative assessments.

HeLF offers several practical studies on the processes of MOOCs in UK institutions. For example, Morris (2014) presents the process of MOOCs at the University of Leeds (appendix

2). The process focuses on both creative and pedagogic issues at one stage, which reflects the importance of pedagogical issues in MOOCs. Woodgate (2014) also presents the internal process of MOOCs at the University of Edinburgh (appendix 3). The internal process of MOOCs is subject to several procedures at the University of Edinburgh. The author suggests two approaches that help to ensure the quality of MOOCs. The first is “academic course development” which encourages the use of quality templates according to a subject and a team view, including the experiment of platforms. The second is “community and transparency”, which focuses on four points: talking to peers and asking for feedback; development of teams - not individuals; encouragement to think about resources beyond MOOC space; and sharing the practice, such as where useful resources are to be found.

Although the QAA welcomes MOOCs as an advocate for quality in education, it expresses some concerns about the current limitations of these technologies.

*UK universities and other awarding organisations are responsible for the quality of all the courses they offer. Since MOOCs are typically non-credit bearing and have no particular entry requirements, they are not formally scrutinised during the QAA review. Nonetheless, MOOC providers will be welcome to cite them in their self-evaluation documents as examples of pedagogical development (QAA, 2014:1).*

The QAA document also highlights the qualifications that students should acquire to ensure employability. The auditing process of the QAA does not, however, cover MOOCs, and MOOCs generally do not offer credit. Thus, it can be said that the QAA only reminds students that they must be aware of the importance of accreditation in their certifications. Although, it does express a willingness to “explore ways in which we can assist with future arrangements, including the development of assessment techniques and the award of credit” (QAA, 2014:1).

The Department for Business Innovation and Skills (DBIS) states that assessment methods of MOOCs can lead to obtaining certifications, but also notes these certifications cannot ensure an accreditation. With respect to accreditation, there are only a few “radical proposals” that represent viable options for UK Universities, such as the “Pearson VUE” exam that is licensed by a “licensed exam centres”, and traditional assessment types in a MOOC setting, e.g. quizzes, and multiple choices (DBIS, 2013:79). Further, DBIS (2013) declares that peer

assessment constitutes “a robust form” of measuring learning, and it could be a vital method of assessing learners of MOOCs and qualifying them to be awarded credit:

*The UK arguably has an inbuilt global advantage here, as an innovator and global kite mark for quality in certification, and as home to a strong culture of critical peer assessment. There is potentially a monetizable market for licensed peer assessors. (DBIS, 2013:102).*

However, they accept difficulties in validating learner identity, where the MOOC learners are “remote, unverifiable, and identified merely by an email”.

### **1.5 The Research Question**

The research gaps are translated into the main research question, which aims to explore the relationship between quality assurance and technological innovation in higher education. The research seeks to investigate how quality assurance at university level relates to innovation such as MOOCs, and how innovation responds to the processes and requirements of quality assurance. The research question, therefore, emerges from the critical understanding of literature, and at the level of detail, to answer the gap. Thus, the central research question is as follows:

***How do higher education institutions adapt quality assurance to accommodate the technological innovation of MOOCs?***

The sub-questions that emerge from the central question focus on key aspects of the literature on quality assurance, technological innovation and organisational culture, with MOOCs as a context of study.

The first sub research question examines the specific aspects of relationship between quality assurance and innovation. It aims to evaluate whether quality assurance supports/hinders innovation in the higher education environment, specifically the role of the internal and external procedures of quality assurance in this relationship. Thus, the first sub research

question is as follows:

*1- To what extent does quality assurance obstruct or develop innovation?*

The second sub research question examines whether quality assurance applied to innovation (MOOCs) differ across the five universities. It aims to investigate whether the attributes of each institution and the regulatory environments have a critical influence on the relationship between quality assurance and innovation. Thus, the second sub research question is as follows:

*2- How is quality assurance of innovation different across institutions according to the attributes of the institution such as size, age, platform and the regulatory environment?*

The third sub research question explores the process and characteristics of MOOCs. It aims to investigate the role of programme design, programme review, and ongoing quality assurance processes and the effect of the MOOCs' characteristics on the quality assurance of innovation. Thus, the third sub research question is as follows:

*3- How do quality assurance practices on MOOCs relate to the process and characteristics of innovation in higher education institutions?*

The fourth sub research question focuses on the influence of organisation culture on the relationship between quality assurance and innovation. It aims to evaluate whether the organisational culture of higher education institutions supports or conflicts with developing quality assurance of MOOCs. Thus, the fourth sub research question is as follows:

*4- How does the quality assurance of MOOCs develop through the cultural norms of higher education institutions?*

The fifth sub research question investigates whether the current approaches of quality assurance used in conventional courses are relevant to MOOCs, or whether there is a need to design a new quality approach to MOOCs. Thus, the fifth sub research question is as follows:

*5- To what extent do MOOCs need a new model or new criteria of quality assurance to be applied with regard to their learning and assessment processes?*

In conclusion, MOOCs, as the context of this study, have yet to be sufficiently researched. There is, in particular, a need to explore whether quality assurance can develop or hinder these technological innovation in higher education. Thus, the study aims to contribute insights into the relationship between quality management and innovation. The study also focuses on the pressing need for the development of a theoretical framework for MOOCs in higher education. The results lead to improved understanding of quality assurance and innovation, and context-specific and practical insights into MOOCs.

## **1.6 The Structure of the Thesis**

Chapter 1 has outlined the background of research, the context of the study, and the research question.

Chapter 2 sets out the literature on quality assurance and innovation, including the conflicting views regarding the nature and effectiveness of the relationship between quality assurance and innovation. The influence of organisational culture on quality assurance is a key part of the literature, specifically in the complex environment represented by higher education institutions. MOOCs, as new technological innovation in higher education, are discussed in a wide sense. The literature discusses the expectations, roles, perceptions, assessment, criticisms and challenges of MOOCs, which help to explore the relationship between innovation and quality assurance, and explore the research gaps identified in detail.

Chapter 3 discusses the overall methodology and methods, and justifies why a qualitative approach is required in this research. According to specific criteria, five case studies in UK higher education, and two methods of data collection have been chosen. There are 32



interviews and different comparative roles of interviewees in the five institutions, which shape the first method of data collection. Collating the documents on MOOCs is the second method of data collection. Documentation is a circuit of “the cultural studies cohort” (Prior, 2004: 353), and “windows into social and organisational realities” (Bryman, 2012: 545). The chapter closes with exploring the ways of understanding and analysing data that qualify for relevant discussion and interpretation.

Chapter 4 presents the within-case analysis for the empirical investigation across the five investigated cases. Each case is introduced by providing a brief description of its background, and then investigating the culture of the university, in relation to MOOCs and quality assurance. The objectives of MOOCs, the strategic views on MOOCs, and the design process of MOOCs, are briefly presented. The last section of each case explores the ongoing quality assurance at the university. All these sections are supported by relevant interviewees statements and paraphrased statements from the universities documents.

Chapter 5 provides across case analysis by comparing the findings across the investigated cases. The findings are discussed in relation to the research questions and shed more light on the appropriateness of the research questions and the conceptual framework of the study.

Chapter 6 presents discussion on the research findings, in light of the existing literature. The central research question is addressed through the response to the sub-research questions that are representative of all five case studies. The last section of this chapter highlights revisiting the initial conceptual framework of research that describes the relationships between innovation, quality assurance and organisational culture.

Chapter 7 is the conclusion of the study. The chapter firstly presents the contributions to the literature and the practical implications, and then it outlines the limitations of the study. Finally, it suggests possible future research.

## **Chapter 2: Literature Review**

Chapter one outlined the context where new technological innovations can augment campus-based higher education, although quality assurance of MOOCs still represents a challenge in UK higher education. The QAA (as the lead governmental body with responsibility for the quality assurance of higher education in the UK) welcomes the development of MOOCs, but, it also clearly expresses some concerns about the accreditation and limitations of these innovations.

The thesis draws upon the literature that investigates two developing areas, which are quality assurance and innovation. There is an increasing interest in the relationship between quality assurance and innovation as the thesis topic. The literature on quality assurance of higher education, in particular, has contradictory views on to relationship to innovation. Also, the assessment of organisational culture has become a popular concept in the literature on quality management (Maull et al., 2001) as well as the literature on innovation (Cole and Matsumiya, 2007).

The relevant literature can provide considerable insight into emerging theory. Chapter two sets out the demonstration of these two main areas (quality assurance and innovation). The first section of this chapter begins by defining quality management and investigating some of its key aspects, including its contributions as a major theme in higher education. The next section discusses the relationship between quality assurance and innovation that are debated in the literature, and the contradictory views around this relationship. Discovering the impact of organisational culture on quality assurance is a crucial part of this section. The last section of chapter two reviews briefly the current literature on MOOCs that helps to understand the context of study, including assessment process of MOOCs, and criticisms and challenges of MOOCs, as well as the current quality assurance of MOOCs.

### **2.1 Quality Management and Quality Assurance in Higher Education**

This section highlights the definitions and approaches to quality management, the functions of quality assurance, and contributions of quality management to higher education.

### 2.1.1 Definitions and Approaches to Quality Management

The term quality is of central importance in contemporary global higher education, and the conception of quality sets benchmarks and criteria for teaching, learning, assessment, and research. Quality in the new millennium reflects “the management philosophy” as a result of the increased pressure associated with competition (Milliken and Colohan, 2004). Quality management in higher education is an “integral part of academic life and will not go away” (Hoecht, 2006: 556). It is considered a vital process that can robustly support systems of higher education. However, there is no consensus about the role and importance of quality management in management literature. Houston (2007:77) suggests that the conception of quality with regards to customer satisfaction, reduced variation, and measurability has been “accepted uncritically”.

Academic literature on higher education identifies different quality management approaches for supporting learning programmes in higher education. Studies agree that the main quality management approaches used in higher education are Total Quality Management (TQM) and Quality Assurance (QA) (Hoecht, 2006). Although these two approaches use different methods and tools, they both clearly seek to achieve similar aims, such as continuous improvement and supporting students and other stakeholders. However, the focus on QA has increased since 2000 in the academic literature on higher education, while studies in the prior two decades focused on TQM. The work of Hoecht (2006) highlights several characteristics of TQM (shown in Table 2-1), which show it does not match the needs of higher education. These characteristics provide some evidence that higher education should adopt a quality assurance approach rather than TQM. Moreover, Jauch and Orwig (1997), examine three factors to prove that TQM is inconsistent with the higher education processes. These three factors are continuous improvement, customer focus, and integrated management system, which are explained as follows:

- 1- The continuous improvement element of TQM reduces variability in the transformation process of the product. However, reducing variability in the learning model can be “counterproductive”, because students can learn effectively in different ways, and teachers can vary their styles according to the needs of different students.
- 2- The customer aspect of TQM does not match the nature of higher education, because it is difficult to determine who the customers are.

- 3- The principles of TQM consider management as an ideal system with regard to main resources, such as human resources. The principles of TQM also assume that employees willingly share the quality philosophy. In contrast, faculty members of higher education have authority in several areas of the production process, such as the design of the curriculum, research projects, and courses.

<b>Factors</b>	<b>The characteristics of TQM</b>
The Origin Sector	The manufacturing sector, and more doubtful in the service sector.
The Objectives of Techniques	Improving the transformation processes, reducing the variation of production processes, improving the quality of product output
The Main Principles	Continuous improvement, customer focus, and integrated management systems.
The Successful Factors	Supporting stakeholder, organisational interventions

**Table 2- 1: The characteristics of TQM (based on Hoecht, 2006)**

Thus, the major focus of this study is on quality assurance rather than TQM. This is because quality assurance is the dominant approach to quality management in higher education today, and it is a critical approach for enhancing the requirements of higher education (Brennan et al., 1997). Quality assurance is a system that consists of interconnected mechanisms that can promote and change higher education (Martin and Stella, 2007), and, thereby, seems to meet the needs of higher education today. According to Woodhouse (1999) quality assurance can be defined as “the policies, attitudes, actions and procedures necessary to ensure that quality is being maintained and enhanced”. By including a wide range of factors ranging from

attitudes to policies, this definition gives quality assurance a very wide scope. From another view, Vlasceanu et al. (2007) state that quality assurance refers to "an ongoing, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining, and improving) the quality of the higher education system, institutions, or programme". This definition reflects more specific areas that concern higher education such as assessment, monitoring, and improvement.

Enders and Westerheijden (2014a: 74) report how quality assurance provides several benefits for higher education institutions and the needs of students. They examine the importance of quality assurance in European higher education, where it is considered a tool to “refocus, modernise and harmonise higher education provision and curricula for the new requirements of international mobility and employability, transparency and accountability, and of strengthening Europe in the competitive world-order”. Akalu, (2016; 267) finds out that quality assurance can be seen through the “academic rigour” and “hard work” that is largely associated with “academic excellence”, and maintaining academic standards. It can also be seen through the commitment of knowledge and the recruitment of the best students and provision of the best learning experiences. Furthermore, the academic literature indicates the importance of the comprehensive process of quality assurance, which ensures rigorous procedures applied to supporting higher education programmes (Massy and French, 2001). Therefore, quality assurance develops according to the needs of higher education and offers a very wide scope through its processes, tasks, and diversity of its aspects, which thereby support higher education.

### 2.1.2 Functions of Quality Assurance in Higher Education

Quality assurance, as a comprehensive process, comprises various functions. According to Martin and Stella (2007), there are several functions for quality assurance systems in higher education, including assessment of the current reality of programmes; granting the accreditation that should represent the best level of quality; and providing information about recognition and accreditation of higher education systems. Westerheijden et al. (2014) confirm that quality assurance offers several functions in the European Higher Education Area, such as internal and external assessment, accreditation, and audit of programmes.

Accreditation is often the first of the aforementioned functions of quality assurance. According to Harvey (2004: 208), “accreditation is the establishment or restatement of the status, legitimacy or appropriateness of an institution, programme (i.e. composite of modules) or module of study accreditation”. Accreditation, therefore, precedes other functions (such as internal and external assessment), while re-accreditation overlaps with or comes after these functions.

External monitoring is necessary to prove that the standards are sufficient and harmonise with the global market needs (Massaro, 2010), and this external monitoring should not conflict with the autonomy of higher education institutions. Martin and Stella (2007,34) describe external quality as "the actions of an external body, which may be a quality assurance agency or anybody other than the institution that assesses its operation or that of its programmes, in order to determine whether it is meeting the agreed or predetermined standards". In contrast, internal quality assurance as another function refers to "The policies and mechanisms implemented in an institution or programme to ensure that it is fulfilling its own purposes and meeting the standards that apply to higher education in general or to the profession or discipline in particular" (Martin and Stella, 2007: 34). Thus, it can be seen that both internal and external quality assurance focus on assessing the programmes of higher education according to specific standards, while the main differences lie in which institution assesses these programmes.

Finally, quality audit is the function that provides guarantees for quality control mechanisms in higher education institutions (Brown, 2004). It is defined as "process of quality assessment by which an external body ensures that the institution or programme quality assurance procedures or that the overall (internal and external) quality assurance procedures of the system are adequate and are actually being carried out" (Vlasceanu et al., 2007:77). Conversely, audits are primarily used to avoid barriers rather than to evaluate higher education, and these functions can improve the performance of higher education (Blackmore, 2009). In other words, quality audit aims to ensure the effectiveness of the quality assurance procedures and provide the relevant feedback of the strength and weakness of the existing practices at universities (Brennan et al., 1997).

### 2.1.3 Contributions of Quality Management to Higher Education

Despite differing views about the need for higher education quality management, the literature on higher education seeks to explain why quality management, in particular quality assurance, is necessary for institutions and systems. The literature, therefore, shows the particular contributions of quality management to higher education that clearly demonstrates its importance. Table 2-2 illustrates some of these contributions as identified by several authors.

<b>Contributions</b>	<b>Evidence of Contributions</b>
Globalisation of Quality and Internationalisation of Higher Education	Supports globalisation of standards, international requirements and competition; modernises and harmonises higher education (Martin and Stella, 2007; Smith, 2010; Enders and Westerheijden, 2014b)
Mission and Goals of Institutions	Reflects mission statements; determines higher education goals (Mihkenson, 1993; Tuckman, 1994, Kear et al., 2014)
Government Relationships	Offers a control tool for governments on higher education (Blackmore, 2009).
Position and Reputation of Institutions	Measures continuous improvement; enhances academic professionalism; promotes reputation (Koch and Fisher, 1998; Middlehurst and Campbell, 2001)
Social Contexts and Labour Markets	Quality assurance supports societies through students. The standards harmonise with the competitive market needs (Quinlan, 2014; Massaro, 2010).
Responsiveness of Individuals and Institutions	Responds to the changes in learning and teaching; increases individual accountability; develops skills of staff (Mårtensson et al. 2014; Mihkenson, 1993)

Learning Technologies	Supports technologies of higher education; e-learning (Ehlers and Pawlowski, 2006; Kear et al., 2014)
Planning and the Future of Higher Education	Supports management philosophy; flexibility in developing higher education (Milliken and Colohan, 2004; Westerheijden et al., 2014).

**Table 2- 2: Examples on contributions of quality management to higher education**

The aforementioned aspects of quality contributions cover several dimensions and may not, in all details, exactly match the scope of this study (such as the relationship between quality and the needs of government, and the future of higher education). Thus, for the purposes of this study, the focus will be on the major contributions that can explain why quality assurance has become so necessary in higher education. It also examines why the programmes of higher education must be subject to quality assurance, in relation to academic professionalism, internationalisation needs; social contexts; and higher education's missions and goals.

#### Quality Assurance and Academic Professionalism

The academic literature on higher education discusses academic professionalism as one key contribution to quality assurance. Hampton et al (2009: 88) report that several studies describe professionalism as an “attitudinal component or behavioural orientation that conditions how individuals think about, believe in, and behave toward their occupation or profession, including a sense of calling, job autonomy, and a commitment to a professional association”. The authors suggest that professionalism can play a key role in the competitive environment of higher education, such as market orientation and customer orientation, and therefore these dimensions seem in line with quality assurance. In this regard, Middlehurst and Campbell (2001:12) suggest that “quality assurance is an important part of academic professionalism”, and it is considered “a key mechanism” in building institutional reputation and, also, considered a brand in a competitive situation.

Quality assurance, as a part of academic professionalism is thought to enhance the reputation of higher education in even wider respects. Middlehurst and Campbell (2001) believe that, on the one hand, it can lead to many successful developments, such as policies and practices,



aspirations, rewards, knowledge economies, and lifelong learning. On the other hand, they also believe quality as a part of academic professionalism can influence the relationship between governments and institutions. That is, they believe the control of quality assurance might help to draw and keep higher education in line with plans of governments, and subsequently, quality assurance enhances the reputation of higher education institutions through its control role.

Moreover, Blackmore (2009) suggests that academic pedagogies for critical professionalism seek to enhance several aspects of teaching and learning, such as to rethink knowledge and to think in cross-disciplinary way. Thus, it can be said that quality assurance, as a part of academic professionalism, might respond to the needs and requirements of higher education through supporting knowledge via its crucial processes and functions.

#### Internationalisation of Higher Education and Globalisation of Quality Assurance

The internationalisation of higher education represents another dimension in the relationship between quality assurance and higher education. Quality assurance is vital in the recruitment of international students, in the sharing of programmes and in the underpinning of the system of international quality. Ultimately, it leads to quality assurance of cross-border higher education (Yung-chi Hou, 2014). Studies also try to explain the role of quality assurance in the internationalisation of higher education. Enders and Westerheijden (2014b) report that the importance of quality assurance in European countries does not come just as a result of granting accreditation. It is also one of the main aspects of the “internationalisation” of higher education.

Internationalisation can also be examined from the angle of the higher education market. Bartell (2003) claims that it is seen as “an organisational adaptation”. That is, universities are forced to respond to internationalisation of higher education as a result of competitive environmental pressures. Quality assurance, therefore, needs to have multiple mechanisms that can meet and adopt international requirements. According to Smith (2010), studies reveal that quality assurance helps to expand the phenomena of internationalisation in higher education, and that should increase developing quality assurance to meet the aspiration of higher education internationally. The high quality of the educational experience contributes

to secure the requirements of “nation-building” and, therefore, the need to upgrade the quality assurance system to meet the expansion of higher education internationally.

Furthermore, the globalisation of quality assurance usually accompanies the internationalisation of higher education. Yung and Hou (2014) believe that globalisation has become “a powerful force” that profoundly affects the internationalisation of higher education. Martin and Stella (2007) believe that the higher education system has been affected by the globalisation of quality assurance and accreditation services, and international student motilities have imposed a need for world standards. Enders and Westerheijden (2014a) add that globalisation, the knowledge economy, and international competition, reflect the need for quality assurance in higher education. Thus, these issues seem to take a wide interest in the core of higher education and clearly reflect the contribution of quality assurance in supporting the internationalisation of higher education. Quality assurance, therefore, is a prerequisite for ensuring the effectiveness of the internationalisation of higher education. This assurance needs to cover all programmes and technologies, including MOOCs and similar technologies that have developed in higher education recently.

#### Quality Assurance and Social Contexts

Quality assurance can be used as a mechanism to help solve problems in policy and other areas. As Westerheijden et al. (2014: 422) state “quality assurance schemes operate in a social context in which there is a phased connection between a policy problem and its possible solution”. Massaro (2010) supports this statement by arguing that the standards of quality assurance are designed according to the needs and requirements of societies and global markets. The author suggests that using appropriate measures of quality assurance, higher education can respond to the expectation and needs of both society and global markets. Massaro (2010: 22), in this regards states that “the starting point for any quality assurance system should be that society has a right to know whether its institutions are capable of meeting its expectations”. Quinlan (2014) confirms this view and adds that higher education policy can support societies through students who seek to use educational knowledge. The policy then should back up academic values and also produce good products and research. Quinlan (2014) states the curricula can be a “vehicle” for developing the characteristics of students, personal attributes, and social responsibility. Quality assurance “must respond to the public interest” to explore what higher education institutions do. This is because societies

look to ensure that the standards of education offer the technical knowledge, general knowledge and skills that students need (Massaro, 2010: 23). Thus, students are a vital indicator of the appropriateness of the quality standards to the needs of society. Supporting students, therefore, cannot be done in isolation from quality assurance, which involves different processes that go beyond the borders of learning, to meet the needs and aims of societies. Therefore, a key consideration in this investigation is the extent to which the interests of wider society and the public (including those related to the labour markets) are reflected in the quality assurance of MOOCs.

### Quality Assurance and Higher Education's Mission and Goals

Quality management supports and furthers the mission and goals of organisations. Firstly, Grady Bogue (1998) stresses that there is a relationship between quality management and the mission of an organisation; the concept of quality is considered part of an organisation's mission, which can be affected by "size, selectivity, and programme diversity". Since the nineteen nineties, quality has been of prime importance with "the emphasis on quality in higher education, now so often reflected in university mission statements" (Mihkenson, 1993: 75). In this regard, Lee (2015) sees that quality management is not concerned with the perspective of customers; but in their future needs and those of partner institutions. This view points to the close relationship between quality management and the mission of institutions, which comes from their future requirements. Secondly, quality management meets the goals of higher education institutions in several aspects, in particular; the competitive market. While institutions aspire to ensure competitiveness in the market (Massaro, 2010), quality management can contribute to granting higher education institutions a competitive advantage by supporting them in the international education market. King (2006: 17) states that "UK universities tend not to compete on price in overseas markets, but rather on quality and thus have an acute awareness of criticism of standards from abroad". Thus, quality assurance can back up the goals and missions of higher education institutions through supporting their competitive markets, according to current and future requirements.

The positive relationship between quality assurance and institutional goals cannot be ensured unless the right conditions and suitable climate are provided. Several writers believe that quality approaches in higher education can be influenced by different environmental factors, such as new technologies, borderless education, and the increase of competition (MacAskil

et al., 2008). Studies, therefore, argue that the success of quality assurance in higher education must be promoted by a suitable quality climate and a flexible culture. Lakhe and Mohanty (1993) believe that one of the vital foundations of the quality philosophy is the creation of a culture orientated towards supporting quality programmes. A quality culture can lead to significant findings that promote organisations, such as “accuracy, comprehensive fact-based problem solving, and focused orientated processes”. Blank and Naveh (2014) add that a quality climate increases the adherence of organisations to standards and routines and leads to better practices. Thus, understanding quality approaches requires understanding the variables of the environment of higher education institutions.

## **2.2 Quality Assurance and Innovation**

### **2.2.1 Conceptions of Innovation**

The literature on organisational studies focuses on the importance of innovation in the life of organisations and their activities. Understanding innovation processes help organisations support knowledge development, and adopt suitable innovations for their activities (Mol and Birkinshaw, 2014). The term innovation refers to “scientific breakthroughs, inventions, patents, and new technologies” (Lee, 2015, 4). Innovation “includes both the creation of ideas that are novel and useful, and their implementation” (Zhu, 2015:66). The activities of innovation can be seen from multidimensional perspectives, such as the domain, the stages and kinds of innovation (Camisón-Zornoza et al., 2004). Types of innovation include administrative innovation, technical innovation and radical innovation, as well as incremental innovation (Aminbeidokhti et al. 2014). Thus, the scope of innovation is vast and can have real impact on an organisation’s activities.

### **2.2.2 Disruptive Innovation**

The term “disruptive innovation” was established by Clayton M. Christensen for describing new technologies that change “an entire market” and can improve products or services in “ways the market does not expect”(Kelly and Senchak (2013: 58). The word “disrupt” seems to be “overused”, but it has a specific meaning (Horn and Christensen, 2013). Christensen defines a disruptive innovation as “a process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors” (Langen and Bosch, 2014: 217). Disruptive

innovation, according to this definition, seems to be a competitive innovation which can lead to a change in any market sector. Horn and Christensen (2013:1) suggest that “disruptive innovations improve over time to march upmarket”. From another viewpoint, disruptive technologies can impede established practices and usually begin with a small number of users, but they replace the existing dominant technologies (Flavin, 2012). Christensen (1997) confirms that disruptive technologies have led to the failure of many institutions, while just a few institutions survive. The causes of success or failure relate to several fundamental principles of organisational nature, such as a mismatch between technology supply and market demand. Horn and Christensen (2013) believe that when institutions successfully establish a “disruptive wave”, they should have suitable capabilities with regard to resources, processes, and priorities. The authors add that these capabilities helped IBM to change from “the mainframe” to a “personal computing business” in the last two decades of the twentieth century.

### 2.2.3 The Relationship Between Quality Management and Innovation

Writers emphasise the relationship between innovation and quality management. Quality is generally described as “a trigger” for innovation as a result of the pressure of markets (Cole and Matsumiya, 2007). A key link between innovation and quality management lies in “the long-term and short-term quality strategies which integrate the action of today with the vision of tomorrow” (Kanji, 1996, 5). Quality management establishes a competitive position for innovation, and, therefore, innovation can be achieved through quality management (Zeng et al. 2015).

Innovation is vital in the response of organisations to technological changes, market changes, and the promotion of organisational learning. These aspects, therefore, need to be enhanced by quality management through improving the performance of staff, measuring the performance of staff, and ensuring the use of the right tools. Thus, innovation cannot be a suitable tool in improving customer satisfaction unless responding to quality standards (Kanji, 1996). Lee (2015) suggests that the concept of quality can be aligned with different kinds of innovation, such as incremental, disruptive, and radical innovation. Blank and Naveh (2014) also believe that the quality positively affects the performance of radical innovation. Lopez-Mielgo et al. (2009: 544) discuss the relationship between innovation and implementation of quality management. They suggest that innovation can be highly prioritised under the “hard

components” of quality management, meaning that quality management, therefore, does not hinder innovation but rather enhance the capabilities of innovation. Hoang and Igel (2005) indicate that the relationship between TQM and innovation could be significantly positive in industrial sector. Additionally, Lee (2015: 4) declares that the strength of the relationship between quality management and innovation can lead to the integration between them, “quality management now falls under the umbrella of organisational innovation - quality alone has become insufficient to attract customers and gain their loyalty”.

However, several studies indicate that the relationship between quality management and innovation cannot always be positive; that quality management can hinder innovation. For example, Cole and Matsumiya (2007:79) state that “the challenge of quality management may be quite different in the high-tech sector where radical/disruptive changes are more common and consequently task uncertainty high”, and therefore, quality management can hinder innovation. The authors write that a positive relationship is only related to incremental innovation (not to radical or disruptive innovation). Blank and Naveh (2014) examine the relationship between quality performance and innovation climate which takes into account the information exchange. The authors declare that when the information exchange is low, quality performance is significantly low. Furthermore, Hoang and Igel (2005) argue two views on the relationship between quality management and innovation. The first view indicates that TQM helps to create a culture and environment that supports innovation, while the second view supported by several studies, stresses a more complex and inhibiting relationship between TQM and innovation. Similarly, Zeng et al. (2015) examine the relationship between quality management and innovation. The authors find that quality management affects innovation through its impact on quality performance and, therefore, the relationship can be much more conflictual. In addition, Kim, et. al. (2012b) suggest that the practices of quality assurance are directly or indirectly associated with innovation. The direct association relates to all types of innovation, while the indirect association relates to a few types of innovation. However, the authors find no significant direct relationship between quality and innovation. The positive or negative relationship between quality management and innovation can be affected by several aspects. These aspects could relate to the types of innovation, the culture and environment of organisations, as well as technologies (ibid).

#### 2.2.4 Quality Management and Innovation in Higher Education

In higher education, there are also contradictory views about the relationship between innovation and quality management. For example, Mueller and Carter (2005) describe total quality management as a managerial innovation, which might mean that quality management cannot be separate from innovation in some respects. Hoecht (2006) criticises the view that quality management promotes both learning and innovation in higher education, suggesting quality management may be accompanied by bureaucratic control, which restrict innovation. Moreover, Aminbeidokhti et al. (2014) claim that managers of higher education prioritise innovation that frames new knowledge and helps to reduce the risk of uncertainty.

However, although most organisations are affected by technological innovation in the world, in higher education the use of technology can be impeded. Marcy (2014) declares that there has been much debate recently about the use of technology in higher education as a result of the development of MOOCs. This discussion reflects a negative view of the relationship between technological innovation and quality assurance within higher education. It is suggested that quality assurance might hinder technological innovation. For example, Hoecht (2006: 543) states that “unfortunately, the audit-based quality assurance currently operated in the UK does not appear to be suited to fostering learning and innovation”, and this could also apply in the case of MOOCs. Consequently, it is clear that there are conflicting views about the effectiveness and nature of relationship between quality assurance and innovation. Also the relationship seems to be more complex for technological innovation in higher education.

#### 2.2.5 Organisational Culture, Innovation, and Quality Management

Organisational culture represents “the shared beliefs, values, attitudes, norms of behaviour of people in an organisation and the established organisational routines, traditions, ceremonies and reward systems” (Wagner et al., 2014: 74), and it is “the workplace environment formulated from the interaction of people in the workplace” (Zhu, 2015: 67). Organisational culture has become a popular concept in the literature on quality management, and the literature indicates that an assessment of organisational culture is required when implementing quality programmes. Organisational culture, therefore, is a crucial priority in the implementation of quality management (Maull et al., 2001). According to Bright and Coope, (1993, 24), quality management must be understood from “the perspective of existing patterns of shared beliefs, values and assumptions”, and it should be managed from the perspective of

cultural change. The fulfilment of quality management in organisation forces several issues to be changed, such as shared assumptions and values (Irani et al., 2004). Quality management is not associated with just a single, identifiable culture, but also with a “pluralist” culture and corresponds to dissimilar cultural dimensions (Prajogo and McDermott, 2005). Organisational culture, therefore, influences the execution of quality management strategies (Wagner et al., 2014)

The literature reveals that organisational culture has a crucial impact on the implementation of new practices. Cole and Matsumiya (2007) declare that the Japanese institutions failed when they focused on organisational culture for ensuring high quality levels, while not considering the organisational culture that should support technological innovations. Lund (2003) suggests organisational culture involves several variables that can affect the implementation of new programmes, such as values, shared philosophies, ideologies, beliefs, expectations, attitudes and norms in organisations. Thus, organisational culture has an important effect on the relationship between quality management and technological innovations.

Furthermore, studies suggest that the age and the size of institutions are crucial factors affecting the conceptions of organisational culture, and that they can be associated with the nature of relationship between quality assurance and innovation. Csizmadia (2006) believes that the institutional age affects organisational reputation and the implementation of quality management. Laegreid et al. (2011) add that the larger-sized institutions and those with institutional age are positively associated with the implementation of innovation. Studies also show that the approach and structure of quality assurance are affected by the size of institutions (Boger and Lyons, 1985; Bogue, 1998). Thus, previous research has recognised the role of these aforementioned factors in the relationship between quality assurance and innovation in different environments (i.e. Seeber et al., 2015; Laegreid et al., 2011).

In higher education, Campbell and Rozsnyai (2002) stress the importance of organisational culture in supporting the relationship between innovation and quality assurance, suggesting that quality assurance cannot succeed in supporting innovation unless it is supported by the institutional culture. Furthermore, higher education institutions are more complex than other sectors (Clark, 1998), and the nature of organisational culture in these institutions is likely to



increase the complexity of relationships with technological innovation and quality management. According to Musselin (2007), the lack of interaction between entities belonging to different disciplines or different units can reduce the possibility of perceiving the higher education institutions as a unit. Universities, therefore, are considered “specific organisations” with regard to organisational characteristics. Teaching and research represent complex processes and “unclear technologies” that are difficult to be understood in institutional environments (ibid). In the same vein, technologies have a central role in educational changes, and a supportive environment is required for these changes (Zhu, 2015). Bartell (2003) sees distance learning as an example of a technological innovation that increases the complexity of an organisation. The author explains how universities are already considered complex organisations but that distance learning is one of many causes that contributes to increasing their complexity.

As a result, the complex environment of higher education institutions seems one of the greater obstacles in the implementation of technological innovation in higher education. The lack of a supportive environment for technological innovation may affect its development. This is clearly seen in the literature on the relationship between innovation, organisational culture and quality management and the literature on higher education that criticised MOOCs as technological innovation in higher education.

#### 2.2.6 Institutional Theory and Organisational Culture

Institutional theory identifies the importance of shared narratives and rationalizations - concepts closely related to organisational culture – help to shape and constrain organisational behaviour. Meyer and Rowan (1977) argue that myths represent institutional rules that can be seen in organisations gaining legitimacy, resources, stability, and enhancing their survival prospects. In addition, organisations adopt powerful myths ceremonially through institutionalised products, services, techniques, policies, and programme. Meyer and Rowan (1977) declare that:

*Many of the positions, policies, programs, and procedures of modern organisations are enforced by public opinion, by the views of important constituents, by knowledge legitimated through the educational system, by social prestige, by the laws, and by the definitions of negligence and prudence used by the courts. Such elements of formal*

*structure are manifestations of powerful institutional rules which function as highly rationalized myths that are binding on particular organisations.*

Thus, myths shape and constrain the behaviour of organisations and, therefore, determine practices around innovation and quality. Meyer and Rowan (1977) stress that the quality of output and inspection, alongside evaluating efficiency of various units, maintain conformity in organisations. The authors also declare that the use of external assessment criteria helps organisations to remain legitimate to a variety of stakeholders and audiences. Similarly, DiMaggio and Powell (1983: 148) identify the importance of organisational rationalization in the adoption of innovation, noting that “as an innovation spreads, a threshold is reached beyond which adoption provides legitimacy rather than improves performance.” Thus, both quality and innovation can be studied from institutional perspectives.

Burch (2007) argues educational research has not fully tapped the insights offered by institutional theory. However, in the field of higher education, many studies have focused upon the importance of institutional models and legitimacy to quality assurance (e.g. Csizmadia et al., 2007; Bell and Taylor, 2006; Westerheijden et al., 2014). For example, Westerheijden et al. (2014: 423) describe how “the adoption of quality assurance schemes becomes a process of copying instruments and policies that exist elsewhere, or to legitimate political action regardless of its effect”. Similarly, Bell and Taylor (2006: 253) suggest that “business schools will be driven by a process of isomorphic emulation to pursue multiple quality frameworks”.

Therefore, institutional theory can be used as a lens to this research according to the main variables of the study (quality assurance, innovation, and organisational culture). Innovation is one of the factors that encourages the legitimacy and the organisational rationalization. Also, institutional theory is widely used as a lens to study quality assurance in higher education. MOOCs are a new innovation in higher education that lack quality assurance and there is a need to understand the relationship between quality assurance and innovation in context of MOOCs and also how the organisation culture affects the quality development of MOOCs. Thus, institutional theory seems to be the most relevant perspective to use in this study.

### 2.2.7 Quality Assurance of ELearning

Based on O'Neill et al. (2004), the quality of eLearning programmes undoubtedly supports success of higher education institutions, and also it supports the flexibility of programmes that can encourage students to adapt to the change process. In addition, the quality of eLearning has also become a crucial part in the analysis process of development research and networking (Ossiannilsson and Landgren, 2011). Collecting student feedback, for example, is considered “a central strategy” for attracting high standards of quality elearning courses in higher education institutions (Jara and Mellar, 2010). Guidance is given on this by the National Agency for Higher Education (NAHE), which states that an eLearning quality model should include the following ten quality components: “material/content; structure/virtual environment; communication; co-operation and interactivity; student assessment; flexibility and adaptability; support (student and staff); staff qualifications; vision and institutional leadership; resource allocation; and the holistic and process aspect” (Ossiannilsson and Landgren, 2011).

However, quality assurance of eLearning is still a subject of controversy, and several studies argue for different quality criteria around eLearning. Indeed, several studies confirm that both eLearning and distance learning still need much more development of quality assurance (Hope, 2014). Ellis et al. (2007) suggest that the strategy of quality improvement represents a complicated case in the programmes of eLearning. Hughes (2012) sees that, as a result of using different forms and norms, quality assurance of eLearning and distance learning is still limited and needs more development.

Furthermore, peer assessment can support quality assurance in higher education. Woolhouse (1999) claims that the increase in student numbers leads to a real need to maintain and improve the quality of higher education by using peer assessment. Gielen et al. (2011) suggest that higher education uses the output of peer assessment as a tool for quality. For instance, peer assessment can provide “qualitative comments” to peers, which helps provide a “convergence and completeness of assessment”. It can also provide specific criteria for the quality of assessment on different levels, and in light of other issues, such as specific criteria at the level of stakeholder perception, specific criteria for “replacement or triangulation to achieve convergence,” and the comparison processes with teachers, peers, and self-assessment (ibid). Consequently, although literature highlights the importance of quality assurance for eLearning in higher education, there is still a lack of argument about forms, norms, and

criteria. Quality assurance, therefore, needs more development in order to rise to higher education's requirements. The quality of new technologies in higher education, in particular MOOCs, could be affected by the limitations of quality assurance of eLearning. This is because MOOCs, in some cases, still use same methods as eLearning programmes, such as peer assessment.

### **2.3 MOOCs in Higher Education Literature**

This section highlights MOOCs in the literature on higher education; including the concepts of MOOCs; perceptions; assessment procedures; criticisms and challenges of MOOCs; the current quality assurance of MOOCs; as well as areas of recent studies of MOOCs.

#### 2.3.1 Concepts of MOOCs

Massive open online courses (MOOCs) have been offered since 2008, but the real attention and debates increased with the large-scale launch of these programmes in 2012. This new revolution came as a result of the attention of leading institutions in the USA, which helped to establish the MOOCs platforms, such as EdX and Coursera (O'Connor, 2014). According to Clarke (2013: 404), MOOCs refers to "large-scale initiatives in the provision of online courses", initially born as a result of the obstacles facing quality in distance education, and evolving through an expertise in using "distance learning and open educational resource". MOOCs offer free online courses that can be taken with the use of Internet access individually (Beigi et al., 2014). These courses can be switched according to specific platforms and support teachers to supply "learning activities, discussion forums and tests, in addition to traditional lecturing" (p.2). In this respect, McAuley et al. (2010) provide a brief insight into the characteristics of MOOCs in higher education today.

*A MOOC is an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes. MOOCs integrate social networking, provide accessible online resources, and are facilitated by leading practitioners in the field of study. Most significantly, MOOCs build on the engagement of learners who self-organise their participation according to learning goals, prior knowledge and skills, and common interests (McAuley et al. (2010: 30).*

Accordingly, it seems that MOOCs tend to address the quality gap of distance learning, thus becoming a robust competitor to traditional learning. MOOCs, therefore, can support learners in knowledge and different skills.

### 2.3.2 Perceptions about MOOCs in Higher Education

The beginning of MOOCs in higher education led researchers to consider the year of 2012 as a “hype year”. The Gartner Group also describes MOOCs as a “Hype Cycle”, because these new technologies are considered a “technology trigger” on the “slope of enlightenment” (Haber, 2014). Gore (2014) writes that 2012 was in fact “a year of rapid change for education” as a direct result of the “breakthrough” of MOOCs into higher education. Hyman (2012) describes MOOCs as “a form of disruptive or transformative education” increasing in number at an overwhelming rate. Horn and Christensen (2013) explore why universities widely adopt MOOCs. The authors believe that despite disruptive innovations initially not looking attractive or prestigious to companies, the leaders of universities realise the importance of “disruption theory”, and how to identify the best opportunities. That is, they accept that innovation may involve disruption (as a by-product) and they embrace it anyway. However, subsequent studies try to understand MOOCs more accurately. For example, Langen and Bosch (2014) contest the view that MOOCs are “disruptive innovations” in higher education, although they might “disturb the present state”. They conclude that MOOCs probably cannot replace traditional education, but neither can they disrupt it, because their formants are similar, but “without the possibilities for active tutoring”. MOOCs, therefore, might be *disturbing* inventions rather than *disruptive* innovations. In tandem with this, recent studies prove that MOOCs are not disruptive innovations but rather sustaining innovation that can improve the current higher education market. Flavin (2016) indicates that MOOCs do not offer new practical forms of learning and teaching and, therefore, they can be a sustaining innovation in “technology-enhanced learning” that enhances existing online provision (p. 640). Al-Imarah and Shields (2018) stress that the current developments of MOOCs are different from the characteristics of disruptive innovation. The authors examine MOOCs through three perspectives of disruptive innovation, which are performance, benefits, and market. The findings show that disruptive innovation assumptions do not support MOOCs in relation to both performance and benefits, and there is only limited support in relation to market because MOOCs can create a new market for addressing unserved learners.

These perceptions about MOOCs lead one to think about the competition of MOOCs with

campus-based higher education, and there are several studies which explore the relationship and influences of MOOCs on campus based learning. Bulfin et al. (2014) discuss “the popular discursive construction of MOOCs” in three countries (the United States, Australia, and the UK). The authors also review how improvement can be made in the adoption of these new educational technologies. Daniel et al. (2015) declare that MOOCs can support campus-based higher education and help to produce “hybrid courses”. MOOCs could also “potentially support many positive changes” in higher education and they might offer “inspiration for higher education providers to revisit both student and staff engagement” (Hayes, 2015: 2). Fox (2013) writes that MOOCs have offered several positive aspects in the development of education and have obvious possibilities, but these possibilities are “a supplement” to face-to-face teaching rather than a replacement of it. Marshall (2014) suggests that the main reason behind the rise of MOOC users is the desire to learn “new things”. Macleod et al. (2015) see the increase of MOOC programmes as successful “outreach”, above all else. Consequently, the literature on MOOCs mainly confirms that the new innovation can enhance campus-based educational programmes. It is no surprise that MOOCs will substantially change the conventional ways of delivering higher education. Thus, the use of MOOCs seems to impose the need for quality assurance to be in line with campus-based higher education.

### 2.3.3 Assessment Process of MOOCs

Assessment mode is one of the major differences between MOOCs and traditional education (Russell, 2014) and it mostly depends on automated assessment and peer assessment instead of the assessment by the teaching staff (Huisman et al., 2018). In terms of variation, although peer assessment is also used increasingly in traditional assessment, peer assessment represents a vital tool for measuring the scores of students in MOOCs (Piech et al., 2013). In terms of reliability, assessment in Coursera takes a rate of different degrees to ensure high reliability of results that can simulate the experience of tutors in assessment issues (Clarke, 2013). However, Russell (2014) reveals that there are three ways to assess progress of students on MOOCs: Quiz Achievement; Forum Achievement; and Project Achievement. These three types have different strategies, but the pass score is 70% for any type and students must choose one of them. Students may be influenced by different aspects; for instance, a quiz should be done twice a week, but students of the forum method must write and discuss a short essay once a week. The third method of exam orients students towards a final project, which takes other methods, such as a presentation, policy proposal, and articles into account. However,

Russell (2014) reports that the complicated issue in relation to theses assessment is the need to continually update questions. At the same time, the author criticises peer assessment because it takes a rate of peer groups, and the scores of students are subject to random selection. Consequently, it seems difficult to use peer review with a large number of student, and MOOCs still lack accurate assessment that can replace human experts and ensure high quality. Researchers, therefore, try to develop other tools that should help in assessing learners of MOOCs.

On the other hand, recent studies suggest different tools that can help to improve the quality of assessment in MOOCs. For instance, Piech et al. (2013) suggest using algorithms in MOOC assessment. The authors think algorithms can help in detecting biases and supporting reliabilities. Chen et al. (2014) suggest the implementation of “a new grading policy”. They think the method might be relevant to peer assessment and contribute to the measuring of quality and impact of MOOCs. Another example comes from Chauhan (2014), who argues for assessment techniques that can help to increase the learning outcomes of MOOCs by using a “Smart System”. He thinks such a system can help to track and predict learner behaviour, which leads to a collection of suitable feedback of students. Moreover, Suen (2014) argues the need for MOOCs to provide both formative assessment and feedback. Despite the fact that peer assessment is considered a significant form of feedback, it still lacks credibility. Thus the writer proposes several ways to improve the accuracy of peer assessment, which could lead to formative assessment, such as online discussion forums. Conversely, Vista et al. (2015) suggest “distributed assessment”, which can be an independent platform that permits users to keep their files in separate format. The authors think it can be applicable in high level of MOOCs and can reduce the gap between the traditional and MOOCs’ environment of assessment. Finally, the study of Wei and Wu (2015) suggests “a peer grading tool” which they see leading to subjective assessment of large numbers of students. Accordingly, it appears that contemporary studies seek to find new tools or mechanisms that can develop and improve assessment. However, there is not a clear vision about these new tools, specifically in terms of whether they support quality of assessment, or just increase the options of MOOCs’ assessment.

### 2.3.4 Criticisms and Challenges of MOOCs

There are many studies criticising MOOCs and purporting that they negatively affect higher education. Table 2-3 illustrates some of the criticisms and challenges levelled at MOOCs in recent studies.

<b>The main indicators</b>	<b>The criticism/ challenges</b>	<b>References</b>
Accuracy of assessment	Students are still at the mercy of the random selection of peer assessors.	Russell (2014)
Accreditation	Most of MOOCs are non-credit bearing.	Daniel et al. (2015) Beigi et al. (2014)
Retention rate of student	More than 60% students drop out of MOOCs.	(Daniel et al. (2015)
Academic depth	MOOCs are online learning communities rather than academics; MOOCs are generally different from conventional courses.	Clarke (2013), Huisman et al. (2018)
Quality of Programmes	MOOCs lack quality standards, with high uncertainty about the pedagogical value.	Fernández et al. (2015), (Gregori et al. (2018)
Reputation of MOOCs	MOOCs are disruptive innovations in higher education. MOOCs are “breakthrough” of higher education	Langen and Bosch (2014), Gore (2014) Hyman (2012)
The willingness of students	Massive numbers of student accompanied by weak interaction	Morris (2013)
Resources of MOOCs	MOOCs face Librarians’ challenges	Gore (2014)
Practical learning	MOOCs offer lack of possibilities for laboratory and practical experiments	Daniel et al. (2015)



The aim of using MOOCs	Most MOOC learners just learn for “fun”; MOOCs seem to be for “geeks” and outreach activity.	Macleod et al. (2015)
Integrity of learning	High rates of cheating in MOOCs’ programmes.	Young (2012)

**Table 2- 3: Criticisms and challenges of MOOCs**

Daniel et al. (2015) declare that although several MOOCs are functioning, and have wide flexibility for students and free courses, they do not extend to personalised learning. MOOCs are not accredited, and the percentage of students who drop out of their courses is between 60% and 90%, which is very high. Marshall (2014) focuses on the ethical issues around MOOCs. Although MOOCs offer several positive aspects in the development of education, there are “significant ethical concerns” surrounding issues, such as academic “duties of care” and research ethics concerns.

The main challenges of MOOCs are located between ideologies and technological difficulties, and many studies give evidence about the inability of MOOCs to replace face-to-face education. This ranges from the lack of many functionalities that must be provided in higher education, such as laboratory and practical experiments (Daniel et al., 2015), to the widespread use of plagiarism that occurs in MOOC learning programmes (Gore, 2014). The large numbers of users do not denote whether MOOCs can contribute to reducing the challenges of higher education, such as cost, student dropout rates, and progress of learning (Perna et al., 2014). Librarian challenges of MOOCs takes a crucial importance in the development of curriculum, such as “influencing faculties; copyright and licensing; delivering remote services; and diverse demographics and scale”. MOOCs also do not grant comprehensive “peer assessment methodology, robust business revenue models, stabilised retention rates, successful pedagogical design, and resolution for cheating and plagiarism” (Gore, 2014: 11). Daniel et al. (2015) illustrate that studies believe MOOCs learning is similar to watching TV programmes and YouTube videos. Also, there are many other platforms already that provide quizzes, discussion groups and peer support to students, such as social media, forums, and blogs. However, Langen and Bosch (2014) find that MOOCs offer good opportunities with shorter programmes of studies. MOOCs thereby can “augment” traditional education (Cann, 2013) and lead to “hybrid courses” (Daniel et al., 2015) rather than entirely replacing face to face education.

### 2.3.5 Critical Areas to develop MOOCs

Studies confirm that the challenges of MOOCs must be addressed through the development of several approaches to ensure the continuance of MOOCs in higher education. For instance, Vivian et al. (2014) stresses the importance of developing a new curriculum for MOOCs. The study of Diver and Martinez (2015) argue both opportunities and challenges of MOOCs with regard to withdrawal of students, an interaction of students with glass forum and video lectures, and certification of MOOCs. Daniel et al. (2015) state that the development of MOOCs can play a crucial role in the future and there is a need to consider five dimensions in future studies, which are the teaching model, monetization, certification, adaptive learning, and MOOCs for developing countries. Wintrup et al. (2015) suggest areas of research by three groups of stakeholders in education enhancement: curriculum developers and learners; higher education providers and marketing teams; researchers and policy makers. In tandem with this, the quality assurance of MOOCs still lacks both criteria and an auditing process in the UK (QAA, 2014), which is considered one of the major challenges of MOOCs, alongside the absence of credit and incompetent assessment (Chen et al., 2014). Accordingly, studies focus heavily on the development and improvement of MOOCs in many areas. These areas of the development of MOOCs can be concluded as the following: (Daniel et al., 2015; Fernández et al., 2015; Diver and Martinez, 2015; Hayes, 2015; Wintrup et al., 2015; Gregori et al., 2018)

- 1- Developing learning programmes of MOOCs.
- 2- Opportunities and challenges of MOOCs.
- 3- Pedagogical issues.
- 4- Ethical consideration.
- 5- Developing assessment processes.
- 6- Developing curriculum.
- 7- Developing quality assurance.
- 8- The relationship between MOOCs and conventional higher education.
- 9- MOOCs' facilities.

### 2.3.6 Current Quality Assurance of MOOCs

Although the academic literature on MOOCs stresses that these innovations serve a number of functions for higher education rather than only the higher education institutions (e.g. marketing, reputation, blended learning, etc), there is a need to understand why quality assurance is necessary for MOOCs. Firstly, despite scepticism about their contribution, MOOCs are most relevant to the globalisation and internationalisation of higher education. The massive numbers of students that join MOOCs around the world, and the international higher education institutions that join the MOOC platforms, clearly reflect these dimensions and the need for quality assurance.

Secondly, the literature on MOOCs suggests that these courses are able to support higher education by producing hybrid courses that are used to supplement campus-based teaching, and may lead to “many positive changes” in higher education. Therefore, MOOCs, as a part of higher education, which enhances teaching and learning, should require quality assurance.

Thirdly, literature indicates that academic professionalism seeks to enhance academic pedagogies in higher education (Blackmore, 2009), and as MOOCs are described as courses “based on [the] pedagogical principles” of higher education (Daniel et al., 2015), one would expect that they reflect these professional values which, therefore, reflects the need for quality assurance.

Fourthly, the literature on higher education proves that institutions adopt quality assurance in support of their missions and goals. MOOCs, in this respect, can support the goals of higher education institutions, including helping students to obtain a competitive advantage in the labour market. As they support the mission of institutions one might expect involvement of quality assurance.

Thus, analysing MOOCs from the perspectives above suggests that they cannot, or should not, be a part of higher education teaching and learning programme without some involvement of quality assurance processes. The processes and criteria of quality assurance should be offered to MOOCs in the same way as it is to campus-based higher education.

Literature stresses that MOOCs are designed for autonomous learning and the current approaches to the quality assurance of MOOCs are still limited (Gregori et al., 2018). Some

advocates of MOOCs have argued that the quality of provision is very high, claiming they “set a higher standard of quality” than campus-based education (Langen and Bosch, 2014:224) or that they produce “high quality products” (Clarke, 2013: 403). However, these claims are largely made without empirical evidence, and therefore evaluation of the current quality of MOOCs remains largely speculative.

Moreover, Horn and Christensen (2013) declare that MOOCs are disruptive innovations that will change quality definitions in the marketplace. For instance, they argue that the rewards of most faculty depend on the quality of their research. However, as a result of MOOCs, they believe that the teaching quality may become of greater importance in the future. MOOCs, could, for instance, offer courses based on employer demand and support the quality of teaching in higher education. The authors, according to their view, see scope for MOOCs to be much more than “marketing and edutainment” and, therefore, these courses could be developed to be a “scale business”. However, this analysis is again speculative, based on expectations rather than observation.

Studies do not give much explanation about the criteria for the quality of MOOCs, and how they can be measured. Studies may refer to limited quality rather than comprehensive quality. For example, when Clarke (2013) states that MOOCs have “high quality”, he also confirms that MOOCs still need to find solutions to other eLearning matters, such as assessment and maintenance of viability, which means that MOOCs still need developmental processes. Langen and Bosch (2014) believe that MOOCs must be supported by improving their quality. Furthermore, other studies have contrary views about the quality of MOOCs. Margaryan et al. (2015:77) assert that although “most MOOCs are well-packaged; their instructional design quality is low”. Additionally, although MOOCs have created a great “revolution” in the education and training of the world, there is uncertainty that MOOCs’ programmes can contribute a pedagogical value to higher education. MOOCs seem to offer use without ensuring minimum quality standards (Fernández et al., 2015). The author, however, believes that the wide range of eLearning undoubtedly gives potential for reliability that can reduce the risk of low quality standards. MOOCs, therefore, might include “indicators of different levels of quality without being cumulative” (p. 135). However, these studies do not offer criteria that can identify the quality of MOOCs, and requirements are still needed to improve their quality.

Furthermore, the academic literature on higher education indicates that MOOCs remain unaccredited (Hayes, 2015), although accreditation became a crucial way of obtaining recognition for academic degrees (Enders and Westerheijden, 2014b). Yuan and Powell (2013) suggest that the main areas for concern about the quality of MOOCs are sustainability, pedagogy and awarding of credit. So, while there are clearly areas in which MOOCs are considered too inconsistent or undeveloped, studies do not explain sufficiently why they are currently not subject to quality assurance.

MOOCs are not the only technological innovation that are adopted in higher education and they should be able to meet the culture and the goals of higher education institutions. However, literature confirms that there are still controversial views in relation to the adoption of this new technological innovation in higher education. In fact, Marcy (2014: 57) complains that discussion about higher education has become over-shadowed by “the intense promotion of, and equally intense reaction against, the development of massive open online courses”. These issues seem to point out that organisation culture in higher education affects MOOCs, which can be the values, philosophies, ideologies, expectations, attitudes and norms. The organisational culture of higher education, therefore, seems to increase the obstacles that face quality assurance of MOOCs in higher education.

## **2.4 The Literature Gap and the Conceptual Framework**

### **2.4.1 The Literature Gap**

Literature indicates that quality assurance is considered a crucial part of any higher education system. Quality assurance improves the programmes of higher education (Martin and Stella, 2007), and contributes to identifying problems and finding solutions (Martensson et al, 2014). Quality assurance is necessary to prove that the standards are sufficient and harmonise with global market needs (Massaro, 2010), and it is the condition that indicates how effective learning can take place (Creelman et al, 2014).

However, few studies have been conducted into the quality assurance of technological innovation, and studies stress that quality assurance is one of the greatest challenges to MOOC programmes (Chen et al., 2014). Studies also indicate that there is no clear view about the

requirements and processes of quality assurance and no standards for the quality of MOOCs (Fernaandez et al., 2015), or the way of assessing the quality of these courses (Cress and Kloos, 2014).

The literature also indicates that MOOCs lack quality assurance of the type commonly used in higher education, even though academic literature continually highlights the importance of quality assurance. Furthermore, several key contributions of quality assurance relate to MOOCs (e.g. internationalisation, and the relevance to labour markets).

The context of MOOCs yields insights into the relationship between quality assurance and innovation in complex organisations. Much literature indicates that quality management in general (including quality assurance) can support innovation in organisations (Kanji, 1996; Hoang and Igel, 2005; Lopez-Mielgo et al., 2009; Zeng et al., 2015; Lee, 2015). However, others have questioned this relationship, suggesting that quality assurance may impede innovation (Hoecht, 2006; Cole and Matsumiya, 2007; Kim et al., 2012b). Accompanying this, higher education institutions are considered “specific” and “complex” organisations (Bartell, 2003; Musselin, 2007), and, consequently, organisation culture can affect the implementation of quality (Campbell and Rozsnyai, 2002; Wagner et al., 2014).

Therefore, in this context, it is also possible to investigate the extent to which organisational culture affects quality assurance. Thus, the study of the quality assurance of MOOCs in higher education provides unique insight into how both technological innovation and organisational culture relate to quality management approaches.

#### 2.4.2 The Conceptual Framework

The study involves three phenomena and the relationships between them, as shown in Figure 2.1 The three phenomena are analysed in the context of MOOCs in higher education. The primary focus is the relationship between technological innovation and quality assurance. Specifically, the study aims to determine how quality assurance can be adopted to help develop technological innovation in higher education. Although the literature review indicates that quality management, generally, cannot be separate from innovation (Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Zeng et al., 2015; Lee, 2015), certain studies have questioned this relationship, suggesting that quality assurance may impede innovation

(Hoecht, 2006; Cole and Matsumiya, 2007; Kim et al., 2012b), and the relationship seems to be more complex with regard to technological innovation that are applied in higher education (Marcy, 2014; Hoecht, 2006).

The secondary focus is the relationship between organisational culture and quality assurance. This will be studied by examining how academic culture feeds into quality assurance. The literature review indicates that organisational culture is important in successful quality management (Lakhe and Mohanty, 1993; Maull et al., 2001; Irani et al., 2004; Wagner et al., 2014). However, the complexity of higher education culture may influence the implementation of quality assurance, either positively or negatively.

The relationship between organisational culture and technological innovation is also important. Literature indicates that aspects of organisational culture (e.g. ideologies, expectations, norms, etc.) can influence the implementation of innovation and the relationship between quality management and innovations (Lund, 2003; Cole and Matsumiya, 2007). Literature also indicates that quality assurance cannot support innovation unless it is supported by the culture of university (Campbell and Rozsnyai, 2002). Thus, this research considers how this relationship may operate and, more importantly, how organisational culture can affect the relationship between innovation and quality assurance. These three relationships between the phenomena are shown in Figure 2-1.



**Figure 2- 1: The conceptual framework of the study**, which involves the concepts of quality assurance, technological innovation, and organisational culture. The relationship between technological innovation and quality assurance is considered bi-directional, whereas quality assurance and innovation are largely considered an outcome of organisational culture.



### **Chapter summary**

This chapter provided the literature review for this research. It started by the quality assurance and innovation, including the relationship between quality assurance and innovation. The influence of organisational culture was a key part in this chapter, specifically in the higher education environment. MOOCs as a new technological innovation in higher education is discussed in a wider sense. The literature discussed the expected roles, perceptions, assessment, criticisms and challenges of MOOCs, which help to explore the relationship between these innovations and quality assurance. The next chapter provides an overview of the research philosophy and methodology adopted in this research.

### **Chapter 3. Research Philosophy and Methodology**

This chapter provides an overview on the research philosophy and methodology adopted in this research. Section 1 outlines the research epistemology adopted in this research. Section 2 shows the research strategy, including the approach of study, and the sample of the study and participants. Section 3 highlights data collection methods, which are interview method, represented by semi-structured interviews, and the second method is documentary data. This section also shows the time horizon adopted in this research. Section 4 explains the unit of analysis for this research, which is the institution of higher education (university). Section 5 outlines data analysis approach used in this research, represented by thematic analysis, and it concludes with the explanation of interpretation within and across cases. Finally, section 6 highlights the quality of data of the research.

#### **3.1 Research Epistemology**

The term epistemology refers to “assumptions and beliefs that we think about the nature of knowledge, and how we understand the world”, and then understanding “the relationship between the inquirer and the known” (Cohen and Crabtree, 2006: 1). In specific terms, it refers to “the study of the criteria by which we can know what does and what does not constitute warranted, or scientific knowledge” (Johnson and Duberley (2000: 3). In this regard, Johnson and Duberley (2000: 2 based on Bhaskar, 1975) suggest that the epistemological analysis for the grounds of certain knowledge or the scientific nature of truth should involve ontological assumptions about the nature of the world. Ontology, here, refers to “the philosophy of existence and the assumptions and beliefs that we hold about the nature of being and existence” (Cohen and Crabtree, 2006: 1).

Epistemological considerations could hold an interest in the question of “what is (or should be) regarded acceptable knowledge in discipline”. In other words, it raises the question of whether the social world can be studied as a natural science in terms of its principles, procedures, and ethos (Bryman, 2012: 27). In tandem with this, Quine (1969) suggests that epistemology should forego any philosophical questions to be a part of an experimental psychology that helps to analyse human cognitive processes through empirical study (cited by Johnson and Duberley, 2000). Additionally, Johnson and Duberley (2000: 5) suggest that

epistemological commitments offer implicit answers to the following questions: “What are the origins, nature and limits of scientific knowledge; what constitutes scientific practice; and what are the processes through which scientific knowledge advances, or is such progress a forlorn hope”. In contrast, Curtis and Curtis (2011: 49) focus important attention on the epistemological considerations of interviews. The authors suggest that the previous view is that “the interview was seen as a neutral means of extracting information”. That is, interviews reflect participant answers to researcher questions. However, the interview should be considered from the view point of researchers, which represents “a social realist approach”, and participants in the interview can have a role in knowledge creation. Researchers, accordingly, should be able to understand the beliefs and perceptions of participants (ibid).

Langley and Abdallah (2011) present different epistemological assumptions according to several studies underlying social research methods. There are two main epistemological assumptions that generate implications for data analysis; post-positivist assumptions and interpretive assumptions. Epistemological foundations and purposes under post-positivist assumptions aim to develop “theory in the form of testable propositions” and seek to learn facts that can help to produce “nomothetic theory”. These assumptions, therefore, seek to develop testable hypotheses and theory. The epistemological foundations and purposes underlying interpretive assumptions aim to “capturing and modeling of informant meanings”, and seek to understand organisational events, which can produce a novel concept (Langley and Abdallah, 2011: 205).

The interpretive epistemology, therefore, meets the requirements of qualitative data that is employed in this research. An interpretive epistemology seeks “understand[ing] the world from the perspective of participants in the world” (Lee and Lings, 2008: 65). In this respect, the key epistemological assumption is that “the stock of knowledge advances as scientific actually learns more about the world as well as through the exposure of the fraudulent and the eradication of mistakes through critical processes” (Johnson and Duberley, 2000: 5). Also, the misunderstanding of data and the making of mistakes can happen with individual scientists and may lead to methodological errors and bias (ibid).

As a result, an epistemological interpretive approach is more suitable in analysing the data from this research. This is because MOOCs are still new in institutions of higher education, and the experiences of participants may be limited with regard to stock knowledge of MOOCs.

The interpretive epistemology, therefore, helps to avoid misunderstandings that can happen during the interview processes. Such an approach can also help to reveal the heading data of documentations. In contrast, the approach of quantitative methods, and testing hypotheses statistically may lead to inaccurate findings as a result of the small sample of participants. This is why in this research, using the interpretive epistemology is more useful to analyse and understand the data of interviews than post-positivist assumptions.

In social science, the main types of reasoning are deductive and inductive. Deductive reasoning is often linked with quantitative research, and it is an appropriate strategy to test hypotheses (Saunders et al., 2016; Easterby-Smith et al., 2015). In contrast, inductive reasoning aims to develop new theories through the exploration and analysis of data, often drawing upon existing theories and frameworks. It is therefore associated with interpretivism and qualitative research strategies (Easterby-Smith et al., 2015; Bryman, 2008).

The inductive approach is thus associated with the interpretivist underpinning of this study, which explores new phenomena in higher education. MOOCs are new technological innovations that are still emerging (Macleod et al., 2015), and there is a need to develop these innovations theoretically. Inductive approach works well with the available data, which are restricted to a few institutions and people.

### **3.2 Research Strategy**

Studies suggest different strategies to be considered in social science research, which depend on the three conditions, which are (Yin, 2014):

- The type of research question posed.
- The extent of control a research has covered of actual behavioural events.
- The degree of focus on contemporary as opposed to entirely historical events.

However, studies indicated that the main four approaches typically used for data collection and data analysis, which were classified, based on the objectives of the research, the nature of the research question, and the research strategy (Marshall and Rossman, 1989; Ellram, 1996; Yin, 2014). Table 3-1 shows these four approaches were classified based on the question of research and objectives of study.

Objective	Nature of research question	Example of appropriate strategy
Exploration	Investigating phenomena , how, why?	Qualitative, experiment, case study, observation,  Quantitative, secondary data analysis, etc.
Explanation	Seeks to explain situation or problem, how, why?	Qualitative, experiment case study, participant observation, Ethnography
Description	Previous knowledge on events, accurate definition of events, who, what, where, how many, how much?	Quantitative, survey, secondary data analysis, longitudinal.  Qualitative, experiment case study, ethnography, etc.
Prediction	Prediction of the outcomes of events and phenomenon who, what, where?	Quantitative, survey, longitudinal. Qualitative, experiment case study, grounded theory

**Table 3- 1: The main approaches of research (adapted from Marshall and Rossman, 1989:78 and Ellram, 1996: 98)**

Accordingly, this research has adopted the explorative strategy to help deepen understanding of the new phenomena of MOOCs in higher education institutions. The explorative strategy is relevant to investigate the relationship between the variables of study, in particular exploring the relationship between quality assurance and innovation, the role of the characteristics of innovation, and whether the university culture is an effective factor in such a relationship.

### 3.2.1 Case Study Approach

In social sciences, qualitative research approaches can include both case studies and topical studies. The topical studies focus on activities that are “a less distinctly bounded area”, while the case studies focus on “holistic situation in real life of setting, and to have set boundaries of interest”, such as particular organisations (Ellram, 1996: 99). The case study approach is

appropriate to describe narrative phenomenological studies, and it can deal with a new phenomenon that has varying characteristics. The case study also suits multiple data collection methods, such as interviews, electronic sources, and documentation. Likewise, case studies can help researchers understand relations of cause and effect, and investigate “the complex dynamic and unfolding interactions of events” (Cohen et al., 2000: 181). Moreover, Schloz and Tietje (2002: 21) state that the case study approach is much more appropriate for educational purposes, and it allows for diversity of interpretations. It also suits a situation in which “a new programme or discomfort with current programme precedes the need for evaluation”, specifically in relation to educational issues. They also advocate the appropriacy of a holistic case study as a qualitative method for evaluating complicated programmes where “a case may be treated from different perspectives”.

However, in the social science literature, misunderstanding the case study approach has led to several criticisms. Flyvbjerg (2004) lists the five misunderstandings of the case study approach and tries to prove that these criticisms are fair. These five misunderstandings are: lack of concrete knowledge, the assumption that one case cannot help to develop sciences, the opinion that they are poor in building theory to test hypotheses, bias in their verification, and that case studies face obstacles in developing propositions. Flyvbjerg (2004) refutes these misunderstandings and advocates the advantages of case studies. For example, the author compares the case study as an example of qualitative research and finds it involves less bias and no less rigors than quantitative methods. The author also finds the case study permits a unique closeness to real life situations and can also test views directly in relation to phenomena that they disclose in practice.

### 3.2.2 Multiple Cases Versus Single Case Study

Research can be applied to a single case or multiple cases, according to the conditions of the problem. A single case seeks to understand a phenomenon and a problem in one organisation (Schloz and Tietje, 2002). It can be relevant to pilot studies, but not to all projects, and it may give “too much scope for the research’s own interpretations” (Flyvbjerg, 2004: 391). A single case study tends to be used for “intensive” research that seeks to explore the reality of the “unique nature” of a studied case, and the researcher is required to employ highly detailed skills in the analysis of the data (McQueen and Knussen, 2002). It may not, however, be

extremely relevant to generalised knowledge, and it is, therefore, most appropriate to the preliminary stages of an investigation (Flyvbjerg, 2004).

Multiple cases target multiple contexts and complicated problems (Schloz and Tletje, 2002). The approach of multiple cases can refer to the different situations of institutions, such as successful and unsuccessful organisations (Bryman, 2012), and can organise different kinds of knowledge, such as disciplinary perspectives (Schloz and Tletje, 2002). This can be useful as social phenomena can be better understood when studied in two or more cases or positions. As such, “cross-culture” constitutes one of the clear forms appropriate to use in comparative cases (Bryman, 2012).

Accordingly, multiple case studies have chosen to understand the role of MOOCs in higher education in the UK. This is because universities observe MOOCs from different angles, which then need to be studied according to their views. Five UK universities represent these multiple cases, and there are various reasons to consider these particular universities in this research, which are as follows:

1. The universities that adopt MOOCs have different levels of quality assurance, which may reflect differences in processes, capabilities and priorities with regards to the quality of educational programmes.
2. The reasons for adopting MOOCs may vary from one university to another according to the characteristics of their organisational culture, such as philosophies, expectations, and attitudes.
3. MOOCs are adopted in different programmes and subjects, which vary among universities, and may reflect different goals and purposes.

These reasons can also help to explain why five case studies are necessary. Having five universities to draw from can ensure that enough participants can be found and lead to desired results.

### 3.2.3 Sample of the Study and Participants

The sample of the study is chosen according to specific categories and in line with the theoretical framework of study. One approach is to provide examples of “polar types” and

thereby extend “the emergent theory to a broad range of organisations” (Eisenhardt, 1989: 537). According to the current data, there were 30 UK universities that offer MOOCs (FutureLearn, 2016; MOOC List, 2016). From these universities, five have been chosen as the sample for the study, according to criteria that relate to and support the objectives of the study. Thus, the proposed mechanism for choosing universities is as follows:

- 1- The sample represents a range of MOOCs platforms. Although most UK universities are using the FutureLearn platform, other universities have used another platform, or more than one platform.
- 2- Several studies suggest that the institutional age can affect organisational culture and innovation (Laegreid et al., 2011; Suomi et al., 2013). The institutional age affects organisational reputation and the implementation of quality management (Csizmadia, 2006). Thus, the age has been used as another indicator to select the sample for this research, including older and younger universities.
- 3- Studies show differences in quality assurance according to the size of institutions (Boger and Lyons, 1985; Bogue, 1998; Lægreid et al., 2011). Thus, different sized institutions are included in the sample, measured by the number of students, which have been used in studies (e.g. Seeber et al., 2015).
- 4- According to the QAA (2015), the responsibility of higher education in England lies in two executive departments, which are the Department for Education and the Department for Business, Innovation and Skills (DfE and BIS)<sup>(1)</sup>. However, the responsibility for education in Scotland, Wales and Northern Ireland is delegated to the Local Ministries of Education (LME). The sample of study, therefore, includes selective universities in both England and other countries in the UK.

(1) As mentioned above, the responsibility of higher education in England lies in two executive departments, which are the Department for Education and the Department for Business, Innovation and Skills (DfE and BIS), which are used as one of the four criteria to select the case studies. However, from 2016, government responsibility for higher education in England has been exercised by the Department for Education. BIS handed over responsibility in that year. More details on this are available online at: <https://feweek.co.uk/2016/07/14/departement-for-educabon-to-take-on-fe-skills-and-higher-education/>.



According to institution-level data, the universities that provide MOOCs have various characteristics that have been taken into consideration in the sample of study (as far as possible), which are explained as follows:

- 1- There were 21 universities established more than a hundred years ago, constituting about 70% of MOOCs providers. The study, therefore, includes a mixture of older and newer universities, with a mean age approximately equal to that of the full set of MOOC providers. However, the study does not include universities established from 1992 onwards.
- 2- Universities can be classified by size as follows: 11 small universities (less than 20,000 students), 11 medium universities (between 20,001 and 30,000 students), 8 large universities (more than 30,000 students). Two universities were chosen from each of the first and the second categories, and one university was chosen from the third category.
- 3- In the full set of providers, seven universities are under local control (i.e. 23% of the total). Therefore, two of the five cases are under local control, while the rest are subject to the policy and funding regulations of England. However, there is only one university that is not in the Russell group.
- 4- FutureLearn is by far the dominant platform. All 30 MOOC providers are members of FutureLearn, but two also use the Coursera platform. Because interaction with the MOOC provider is a key concern of the study, one of institutions using Coursera has been included in the sample.

Thus, Table 3-2 shows the universities that were approached to participate in the study, due to their characteristics.

<b>The selected universities</b>	<b>The Main Characters of universities</b>
University A	Younger, small university, FutureLearn platform, and DFE & BIS responsibility.
University B	Young, small university, FutureLearn platform,

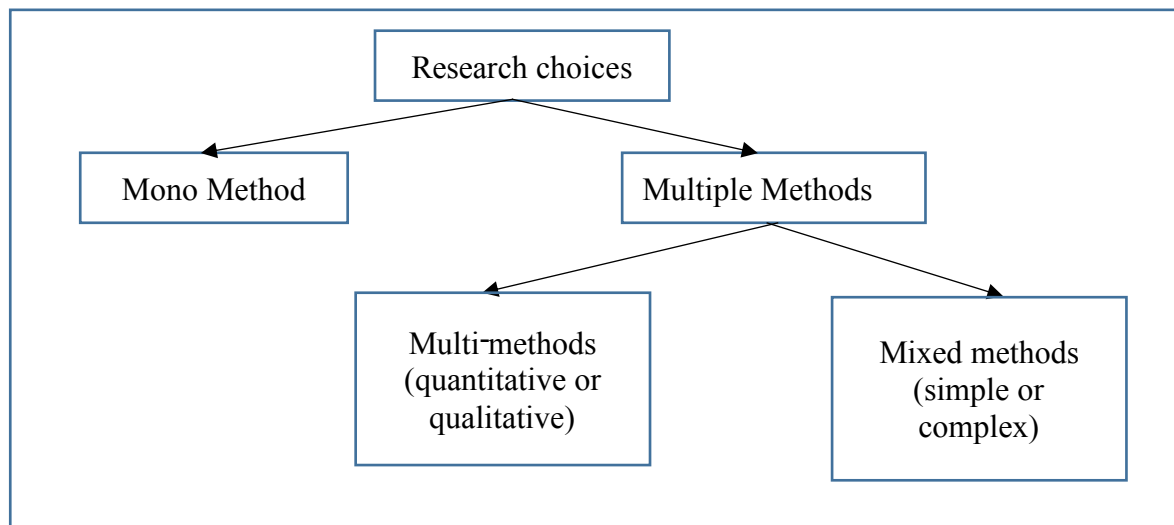
	and DFE & BIS responsibility
University C	Old, big university, FutureLearn platform, and LME responsibility
University D	Old, medium university, FutureLearn platform, and DFE & BIS responsibility
University E	Older, medium university, Coursera platform, and LME responsibility

**Table 3- 2: The characteristics of five case studies**

The interview participants in each case includes academic staff who have experience in using or developing MOOCs and those who have experience in ensuring quality assurance. Participants also include professional directors, and eLearning staff. This is because several issues must be taken into consideration to ensure the accuracy of data, such as location, degree of formal structure, kind of participants and conservation purpose (Symon and Cassell, 2012). As previously mentioned, the research has examined five universities (case studies) in the UK, which can vary in characteristics. However, each case (university) should have similar samples of individuals to be interviewed with equivalent positions (as far as possible), to allow data collection from similar sample. This step is likely to lead to the emergence of common themes and patterns. Accordingly, the interviewees can be staff from eLearning, campus-based learning, quality assurance and education development, as well as staff working directly on MOOCs. Interviewees, therefore, are at least 5 persons from each university.

### **3.3 Data collection**

According to Saunders et al. (2016) the main three research choices are mono-method, multi-method, and mixed-method. The mono-method refers to the use of a single resource of data collection and complementary analysis. The multi-method research refers to the use of more than one data collection resource and analysis method. The mixed-methods research includes the use of both qualitative and quantitative data collection recourses and analysis techniques. Figure 3-1 shows these three choices.



**Figure 3- 1: Research choices (adapted from Saunders et al. (2016:167))**

Furthermore, the use of multiple sources of evidence is considered one of the key principles of data collection in the case study strategy (Cohen et al., 2000; Yin, 2014). Therefore, the multi-method of data collection is the choice of this explorative study, which comprise interviews and documentary data.

### 3.3.1 Qualitative Interviews

Scholars describe qualitative research as “the interpretive study of a specified issue or problem in which the researcher is central to the sense that is made” (McQueen and Knussen, 2002: 197). The authors believe that researchers who use qualitative methods provide a more comprehensive rationale for their methodology than those using quantitative methods. They do, however, admit that selecting a research plan (qualitative or quantitative) is subjective, for several reasons, and each method can be used under different conditions. Quantitative research, for example, is often used in areas that are well researched, while qualitative research is used in cases where literature cannot be a substantial guide in a targeted area. Quantitative research also requires a huge sample of participants, whereas qualitative research must be used in cases where few people have experience in the targeted area (ibid). Thus, these aspects of qualitative methods seem suitable to the reality and aspects of MOOCs.

The interview method is one of the most important resources used to find evidence in case studies because most case studies focus on human actions and affairs (Yin, 2014). It represents an “attractive research option”, and the response rate, which can be between 80-85 per cent, is much higher than for other methods (Ruane, 2005). The interview method provides a good opportunity to support the collected data with the personal experiences of interviewees (Alvesson, 2003). Interviewees are always more interested in talking than writing, and the qualitative method permits conversation and the exchange of information between both researchers and their interviewees (Ruane, 2005). Thus, for the purposes of this research, qualitative interviews are used for the collection of data, because these interviews have sufficient flexibility to attract interviewees. Qualitative interviewers are required to listen and respond to significant issues that interviewees may raise. These researchers should also have an ability to assess whether that information lines up with research targets. Researchers should aim to understand the precise meaning of interviewee responses, and they should avoid achieving a quick impression or interpretation. The kind of interviewees and their experiences also affect the results of the interview (Morse, 2004).

### 3.3.2 Semi-Structured Interviews

The philosophical and practical considerations of research can affect the selection of the kind of interview type chosen (Lee and Lings, 2008). The interview method can, therefore, comprise three types of data collection: structured interviews, semi structured interviews, and unstructured interviews. Structured interviews refer to the use of standardised questions that interviewees receive from the interviewer with answers that can be restricted according to the purpose of the questions (Walliman, 2006). Structured interviews, therefore, aim toward quantitative research, more than qualitative research (McQueen and Knussen, 2002). Unstructured interviews depend on main questions that encourage interviewees to explore their attitudes in depth (Walliman, 2006). Unstructured interviews can be used when researchers do not have a “predetermined set of expectations” about findings of research and offer “a rich source of descriptive information” as a result of the open-ended nature of their questions. The unstructured interview method has several advantages in social science research. For example, it encourages interviewees to provide real personal, unlimited responses.

The semi-structured interview is the third type, which represents both elements of the structured and the unstructured interview because it includes both standardised and open-format questions (Walliman 2006). This kind of interview is more relevant to qualitative research as it involves setting questions that can lead to more detail. Many advantages to the semi-structured interview are addressed here, and Table 3-3 reviews some of these advantages.

<b>Advantages</b>	<b>Authors</b>
Participants answer similar questions with various views.	Corbin and Strauss (2015)
Participants are free to add more details.	
Researchers can add immediate questions to supporting their topics.	
Interviews cover comprehensive theoretical framework.	Bryman (2012)
Participants provide data of similar type.	
Participants respond to predefined areas of interest.	Creswell (2009), Malhotra and Birks (2007), Saunders et al. (2016)
Interviews can include diversified perceptions from across an institution.	Miles et al. (2014)
Helps researchers to triangulate information.	Wayne et al. (2008)

**Table 3- 3: Advantages of the semi-structured interview**

According to McQueen and Knussen (2002), semi-structured interviews should start with a particular question, such as, “How do people .....”, “How do you feel about.....”, and “Are

there ways to link these expressions together?” (p. 207). Additionally, the emphasis on questions focuses on how the interviewees understand events, and how their views are important for the explanation and understanding of events, patterns, and forms of behaviour (Bryman, 2012).

Consequently, the semi-structured interview was the most suitable method for this research, because it provides a relevant opportunity to utilise questions as a guide for interviewees, and it also allows interviewees to expand their answers according to their views and experiences (Bryman, 2012). People who were interviewed have similar jobs and experiences, which meets the requirements of semi-structured interviews.

### 3.3.3 Interview Protocol and Questions

The use of a specific interview protocol is required with semi-structured interview design. In this respect, Curtis and Curtis (2011) list steps that researchers should take to start interviews and alleviate any potential anxiety of participants. Introducing themselves to participants, explaining the main aims of the research, and giving participants an information sheet that includes basic points about the interview are just a few suggested tactics. Questions about components of the research plan can help to reveal the initial response of participants. There is also a need to acknowledge the time interviewees are spending in support of the research, which can be acknowledged by a statement of thanks (Creswell, 2009; Bryman, 2008). Additionally, acquiring “facesheet” data is required, information such as age and position (Bryman, 2012). Researchers must also write notes as key points that can support the interview (Curtis and Curtis, 2011).

Researchers should plan for the content and structure of the first question to be asked and how it should be asked (Miles and Huberman, 1994). However, Bryman (2012) suggests that formulating the questions that make up interviews can help researchers realise what they need to know. Interview questions should be formulated in an comprehensive way and with appropriate language. Kvale (1996) recommends using easy and short questions, with “no jargon”, listening carefully to interviewees, and having flexible responses. Researchers also need to avoid common mistakes in questioning, such as the use of leading questions, complicated questions, multiple questions, as well as judgmental questions (Alvesson, 2003).

Furthermore, the structure of the main interview questions should move from general to specific. According to this framing, interview questions can include introduction questions, probing questions, specifying questions, direct and indirect questions, structuring questions, and interpreting questions (Bryman, 2012).

As a result, the questions in this study cover the areas of quality assurance and innovation, organisation culture, MOOCs and quality assurance. More specifically, they cover MOOCs in higher education; the new innovations that have been added through using MOOCs; the processes of MOOCs; the contradictions and gaps between MOOCs and conventional higher education; the processes and criteria of quality assurance; MOOCs and quality assurance; the possibilities and barriers of improving the quality of MOOCs; and the impact of organisational culture on the quality of MOOCs. Appendix 4 provides examples of interview questions for this study.

#### 3.3.4 Documentary Data

Documentation is the second source of data in this research. Yin (2014; 107) states that documents are “useful even though they are not always accurate and may not be lacking in bias”. The author stresses that documents should be carefully selected and not accepted as literal recordings of events that have taken place. However, studies recognise that the major reason for the utilisation of documents is that documents are not only considered a source for ideas and information, but are also “an integral component of bench work itself”, which could include crucial factors such as instructions and recipes (Prior, 2004: 353). Likewise, several issues can be explored by using data from documents, which reflect the reality of institutions, such as mission statements and job descriptions. Such documents are described as “windows into social and organisational realities” because they can expose latent elements relating to social reality (Bryman, 2012: 545). Documents, therefore, are major objects in the “circuit” of “the cultural studies cohort” that can be discussed and analysed (Prior, 2004). In addition, the documentation process increases the importance of documents, which not only relates to content but also to “how it is produced, how it functions in episodes of daily interaction, and how, exactly, it circulates” (Prior, 2004: 358).

The importance of documentation here comes from the need to analyse the processes of MOOCs, such as the writing processes, the MOOC proposal stages, MOOCs’ planning and

development, and procedures of quality assurance. Internet websites can also be a massive resource of textual data, which can be treated as document data (Lee and Lings, 2008). The website of FutureLearn and other platforms, as well as other MOOC programmes that are published on university websites can provide important documents about MOOCs. Furthermore, there are several criteria that are typically used to evaluate the importance of documentation data. These criteria relate to the accuracy of data and resources, and ensure minimisation data bias or error. Using criteria maximises authenticity and credibility of documents. Researchers, therefore, should be aware of the importance of data and realise its precise meaning of data (Lee and Lings, 2008).

### 3.3.5 Time Horizon

According to Easterby-Smith et al. (2015), the main common time horizon approaches are the longitudinal time horizon and the cross-sectional. The longitudinal takes place over an extended period of time and helps researchers to investigate the development over time. However, the longitudinal studies require access to interviewees for more than one occasion and get their data over a long time. This approach does not seem relevant to this research because the case study approach adopted is exploratory for new phenomena that have recently started in higher education institutions. In contrast, the cross-sectional approach focuses on a single point of time to describe a phenomenon or to explore the relationships of multiple factors to be measured “simultaneously” in different organisations (Easterby-Smith et al., 2008: 90). This approach seems to be much more relevant to this study. MOOCs, as a context of study, are still new in higher education institutions and the study explores how quality assurance can enhance these phenomena at the five universities. Both the sources of data describe MOOCs in a short period of time and they do not indicate a clear change since the universities adopted MOOCs. Thus, the cross-sectional approach is more relevant to this study than the longitudinal approach.

### **3.4 Unit of Analysis**

In social science research, there are several units of analysis, including individuals, groups, organisations, social artifacts and social interactions (Crossman, 2014). The institution of higher education (i.e. the university) was chosen as a unit of analysis for this research for



several reasons. Firstly, the research adopts a multiple case study approach, interviewing participants in several universities in UK higher education. The participants are staff of these universities, and therefore the individual answers characterise the views of their institutions. Secondly, this research focuses on the higher education activities in relation to quality assurance and innovation. Quality assurance is commonly a higher education programme that is subject to the particular vision of each university. Thirdly, the location of participants for this study, and the degree of formal structure, as well as their experiences of learning programmes and quality assurance as a whole, help to focus on the views of higher education institutions. The current technological innovation (MOOCs) are designed as learning programmes that support campus-based higher education. Thus, the focus on organisations (universities), in relation to both quality assurance and innovation, might be clearer than that of individuals or groups.

### **3.5 Data Analysis**

There are several approaches to analysing qualitative data, but only a few of them are used widely in research. Lee and Lings (2008) state that the interpretive approach is “naturally” most relevant to qualitative research as it can help to provide an understanding of social reality from the viewpoint of individual participants. The interpretive approach has, they assert, crucial advantages, such as the simplification of data (reductionism), interpreting the social context (reflexivity), carefully understanding the reality of situations (representation), and interpretation of data reflects the accuracy of the coding process.

#### **3.5.1 Thematic Analysis**

Cohen and Crabtree (2006) present different types of qualitative analysis approaches such as “content analysis” and “narrative analysis”. Content analysis focuses on “data coding” and compares texts, such as the text of newspaper articles, as well as the verbal and visual content of television programmes. The process of analysis includes interpretation of both “explicit content” and “latent content”. This approach can also assist in the analysis of other data, such as interviews and focus groups, but the primary weakness here is the limitation of understanding the context. Furthermore, Lee and Lings (2008: 255) view discourse analysis as much more relevant to “the idea of social constructionism” rather than to “the idea of

independent reality”. Discourse analysis can help to reveal implicit objectives of data, which then can be useful for many resources of data collection.

However, thematic analysis is the best way to analyse the data from the interviews and documentation in this research. It can discover the reality and the experiences of interviewees, and it is “a method for identifying, analysing, and reporting patterns (themes) within data” (Braun and Clarke, 2006: 6). Defining themes is one of the main aims of the thematic analysis, which highlights the data that are more important for the research findings (Maguire and Delahunt, 2017). Table 3-4 shows the advantages of thematic analysis.

1	Flexibility.
2	Relatively quick and easy method of learning and practising.
3	Accessible to researchers with little or no experience of qualitative research.
4	Results are generally accessible to educated general public.
5	Useful method for working within participatory research paradigm, with participants as collaborators.
6	Can usefully summarise key features of a large body of data, and/or offer a “thick description” of the data set.
7	Can highlight similarities and differences across the data set.
8	Can generate unanticipated insights.
9	Allows for social as well as psychological interpretations of data.
10	Can be useful for producing qualitative analyses suited to informing policy development.

**Table 3- 4: Advantages of thematic analysis (Braun and Clarke, 2006: 97)**

Curtis and Curtis (2011: 44) report that thematic analysis matches the principles of grounded theory, which has three steps in analysing data: open coding, axial coding and selecting coding. Open coding refers to choosing categories from analysis of data that helps to “describe overall features of the research”; axial coding refers to recording data in “new ways” that

helps to understand relationships between variables and codes, and selecting coding seeks to identify “core code all those identified in open and axial coding”. The thematic approach is therefore appropriate for interpreting the data of the interviewees and documents, and it has played a crucial role in understanding the relationships between the variables of this research. In this context, Maguire and Delahunt (2017) recommend using the six steps of thematic analysis that is suggested by Braun and Clarke (2006). Table 3-5 shows these six steps.

Step 1: Become familiar with the data	Step 4: Review themes
Step 2: Generate initial codes	Step5: Define theme
Step 3: Search for themes	Step 6: Write-up

**Table 3- 5: The six steps of thematic analysis (Maguire and Delahunt, 2017: 3354)**

During the data collection stage, some researchers find that “preliminary analyses” can be promoted to avoid the accumulation of data. This step leads to the development of explorative ideas and encourages researchers to work without feeling bored (Lee and Lings, 2008). The next step is “summarising the interaction” which positively leads to the reduction of data; this process includes “selecting, focusing, simplifying, abstracting, and transforming the data” (Miles and Huberman, 1994: 236).

Accordingly, qualitative data is transformed into codes rather than numbers for finding key ideas in different ways (Lee and Lings, 2008). However, the use of qualitative software is helpful in achieving more precise results. For example, organising and managing data by using QDA software can provide an easier analysis process (Lee and Lings, 2008). Likewise, using CAQDAS to find a flexible coding scheme and indexing, can support research in clarification of analytic strategies of research and help researchers obtain a clearer understanding of “qualitative theory building” (Seale et al., 2007: 456).

The coding process should be a balanced process, avoiding a complicated scheme and finding acceptable numbers of codes, while at the same time not overly reducing data (Lee and Lings, 2008). Two kinds of coding categories can be important in data analyses as “heuristic concepts”, which are the diversity of theoretical concepts (such as definitions), and important

topics, or “topic-oriented codes” (Kelle, 2004). Researchers classify codes to many kinds that can be used in the analysis of data, such as descriptive, interpretive, and pattern of responses. A high level of coding can help to describe “the whole interview”, according to the objectives of the researcher. For example, descriptive code refers to “what is going on in a piece of text”, and interpretive code is used to discover what lies “behind the words”, while pattern code helps to reveal “underlying patterns, themes, and links within the data” (Lee and Lings, 2008: 244). Furthermore, data analysis can be affected by the method of research, and it can use a strategy that suits the current case study. MOOCs, therefore, as new phenomena in higher education, seem to require interpretive codes to explore what is “behind the words”. For instance, it is clear that there are conflicting views about MOOCs quality and how it can meet the academic standards of higher education institutions. This stage of data analysis helped to reveal the variables that influence the relationship between the quality assurance and MOOCs.

### 3.5.2 Within Case Analysis

The main purpose of the within-case analysis is to describe what happened in each case as a single entity (Miles et al., 2014). It is important to analyse what interviewees say about different events, and whether these are consistent or contradictory across several activities (Marshall and Rossman, 2016). Within case analysis, qualitative analysis can be a powerful method for assessing causality and understanding why activities and procedures have been done in each case (Miles and Huberman, 2014). The within-case analysis has also been investigated the differences and similarities between both the interviewees’ responses and documents. Accordingly, there have been different analytical techniques used in this research to investigate and understand the data and provide insights.

The majority of interviews were recorded and transcribed, and the confidentiality of documents and interviews for all universities was ensured. Transcribed interviews were entered alongside documents’ data into the NVivo qualitative analysis software package. The grounded approach was taken into consideration when using and classifying the codes to ensure that the “analyst is more open-minded and context- sensitive” (Miles and Huberman, 1994:58). The codes were categorised and chosen based on the identified practices and expected relationships to establish relevant themes (Corbin and Strauss, 1990), such as MOOCs' benefits, challenges, curriculum, university's culture, plan and strategy. In tandem with this, several codes have included sub codes to ensure the correlated themes and sufficient

view on the variables of the research. An example of sub codes is that the code of university culture has included three sub codes. These are: culture and technologies, culture in details, and specific indicators on the culture. Appendix 5 shows an example of the main codes and sub codes as they appear in NVivo.

In collecting and analysing data, researchers must avoid bias and lack of accuracy, which are considered the major problems that lead to poor quality in research (Lee and Lings, 2008). The data were reviewed several times through the process of descriptive coding to ensure accuracy and to establish sufficient lists of themes that were used across cases. One of the most important considerations was highlighting similarities and differences across the cases of this study in relation to both interviews and documents. Yin (2003:111) suggests three general strategies for the analysis of case studies: relying on theoretical propositions; thinking about rival explanations; and developing a case description. Thus, it was more important to consider all cases in light of the theoretical perspectives of this research. The dimensions of the quality of data have also been taken into consideration in the coding process, in particular validity, reliability, and credibility (Lee and Lings, 2008; Seppanen et al., 2007; Leung, 2015; Yin, 2014).

The five universities have been defined as case A, case B, case C, case D and case E. A designation that helps to organise statements from interviewees and internal documents. Each statement is coded by the name of its case (A, B, C, D or E), followed by the interviewee (participant) code (P) and the number that defines her/him. To give an example of this, case (University) B, participant 10, is coded as (BP10).

There are 32 interviewees, including academic staff who manage or supervise MOOCs, eLearning staff, quality assurance staff, educational designers and project officer, etc. Table 3-6 shows statistical data on the background of the interviewees. Many of interviewees already have experience in eLearning and distance learning that supports their work on MOOCs, while others have never worked on such programmes. Appendix 6 provides statements on the background and current roles of participants.

	Criteria	Number of interviews					
		A	B	C	D	E	Total
Role	Academic staff	5	2	3	3	3	16
	Supporting staff	2	4	3	4	3	16
Gender	Female	5	5	2	5	4	19
	Male	2	1	4	2	2	13

**Table 3- 6: Statistical data on the interviewees**

In the transcription, the natural speech of interviewees was generally easy to hear, and there was no need to edit it. Empty brackets [ ] are used for any words or phrases that were difficult to hear and transcribe correctly. Brackets containing dots [...] are used to refer to words (or phrases) that have been omitted from the quoted statement for the sake of brevity or to avoid redundancy. Further, the following kind of brackets ( ) are used only to indicate that the name of the university has been deleted in order to maintain confidentiality. In such cases, the code of the university is inserted inside the brackets. For example; “*they are not university of (E) students, they are participants that have signed up to the MOOC for different reasons*” (EP29). Lastly, the ellipsis is used in instances when the interviewees pause before completing their statement.

Twenty-three internal documents were also used, including universities’ publications on MOOCs, documentation of the course design processes, and the quality of MOOCs. In order to maintain the anonymity of the case study institutions, documents are paraphrased rather than quoted directly. Thus, any document is coded by (D) preceded by the code of the case institution (A, B, C, D or E), followed by the number of the document in each case. Because documents are not quoted directly, there are no numbers following any statement from the documents. To give an example, any statement from document 1 in case C is coded as (CD1). Appendix 7 provides definitions to the documents used alongside interviews in this research.

Lastly, the higher education literature describes the programmes that are commonly used in higher education in different ways, such as “conventional” higher education programmes (Hawkins, 1985; Taplin, 2000; Voutilainen et al., 2016), “traditional” higher education programmes (Clark, 1998; Sandeen, 2013; Bron and Thunborg, 2015), or “face-to-face” higher education programmes (Cowan et al., 2013; Castano-Munoz et al., 2014; Raes et al.,

2015). For the purpose of this research, therefore, the expression “conventional higher education” is used when there is a need to talk about the common academic programmes in the universities. Even if the expressions of “face-to-face” or “traditional” higher education are used, they refer to the same meaning of “conventional” higher education programmes.

### 3.5.3 Cross Case Analysis

Cross case analysis is the second step after completing the within-case analysis, which is a crucial step to detect similarities and differences across the five cases. The first aim of this chapter is to enhance the “generalisability” of findings through the similar settings of cases. The second aim of this chapter is to understand the conditions of the similarities and differences and how those conditions may be related (Miles et al., 2014:). In this context, the study has developed a scale to measure evidence derived from the statements of interviewees and documents on the factors and indicators being studied, such as the flexibility of culture, the internal quality assurance procedures within universities, etc. This scale comprised four main levels, which are as follows:

- 1- High level: this level expresses clear evidence on the addressed point, such as the consensus or clear examples provided by interviewees and internal documents in respect to the indicators.
- 2- Moderate level: this level refers to where there is less consensus or less compelling evidence in respect to the indicators.
- 3- Low level: this level refers to a lack of consensus in respect to the indicators or weak evidence in respect to any indicator that is addressed in the study.
- 4- Unclear level: this level refers to a circumstance where interviewees do not have clear ideas or evidence about the indicator in question, and where there are no internal documents to shed light one way or the other.

Sometimes, however, there is a need to use mixed levels to express some indicators that do not fall entirely within a specific level, but rather in between. For example, whereas the indicator of the acceptance of MOOCs at Universities A and B is moderate, the evidence with respect to University A is less compelling than University B. Although it is not low, it means that the level of University A is low/moderate.

### **3.6 Quality of Data**

Reliability and validity are usually considered the criteria of quality in quantitative research. However, they are also useful to measure issues in qualitative research, such as the quality and accuracy of research (Bryman, 2012). A good research design should consider reliability, external validity, construct validity, and internal validity (Ellram, 1996).

#### **3.6.1 Validity**

Validity refers to whether “you are observing, identifying, or measuring what you say you are” (Mason, 1996: 24). Validity in qualitative research means “appropriateness” of the tools, processes, and data, and it helps to design the methodology of research. For example, whether the research question of study is valid for the desired results, the methodology should be appropriate for answering the research question (Leung, 2015). Thus, validity supplements the meaning of reliability and to what extent that summarising data reflects the raw data (Lee and Lings, 2008). In this context, external validity refers to “how accurately the results represent the phenomenon studied”, which could establish the generalisability of results (Ellram, 1996:104). Internal validity refers to how researchers establish “a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships” (Yin, 2003: 34). Both internal and external validity have been taken into consideration in the findings of this research. Furthermore, there are three different elements proposed for the establishment of construct validity in this research, which are: using multiple sources of evidence, establishing a chain of events, and having key informants review the case study research (Ellram, 1996).

#### **3.6.2 Reliability and Credibility**

Reliability of data analysis is apparent in raw data that is converted to “analysable form”. This process includes transcription and code data. In other words, it involves the inference of researchers that contributes to the conversion of the raw data for purview and codes. Reliability, then, can be increased by re-checking transcriptions and coding processes and leads to a thorough interpretation of data and a deeper understanding for readers (Bryman, 2012; Marshall and Rossman, 2016). This issue, therefore, has supported data analysis and, consequently, supported the findings of research.



Furthermore, credibility, which helps in finding relationship between data, must be taken into consideration (Lee and Lings, 2008). Credibility is described as a criterion of trustworthiness, represents an alternative to reliability and validity in evaluating research. It is employed to ensure that research “is carried out according to the canons of good practice and submitting research findings to the members of the social world who were studied for confirmation that the investigator has correctly understood” (Bryman, 2012: 390). From another viewpoint, scholars stress the importance of trustworthiness to evaluate the research truth and to establish: Transferability, Dependability and Confirmability. Transferability can ensure that the findings of the study have applicability in other contexts. Dependability helps to ensure that the findings of the study are consistent and could be repeated. Confirmability shows that the findings are derived from the respondents’ research data, rather than views or interests of researcher and without bias (Cohen and Crabtree, 2006 based on Lincoln and Guba, 1985). All these concepts have been taken into consideration in this research in order to ensure a high degree of accuracy in reported findings.

### 3.6.3 Ethical Considerations

In social research, ethics of research must include all steps of research (Lee and Lings, 2008: 219), and “the values of the research community have significant implications for researchers” (Bryman, 2012). Research, then, must adopt a plan for ethical issues that can involve accepted activities. Several issues can be taken into consideration in the ethical plan of research. For instance, research should avoid any harm to a subject and value the rights of participants, as well as demonstrate an ethical plan that must lead to “the whole truth and nothing but the truth” (Ruane, 2005). Bryman (2012: 135 based on Diener and Grandall, 1978), believes the four major ethical principles that must be avoided are harm to participants; lack of informed consent; invasion of privacy, and deception.

Furthermore, studies suggest ethical standards that can be adopted in research. Firstly, in addition to informed consent, interviewees have a right to know about the nature of the research and that they can leave an interview whenever they want to. Secondly, researchers should ensure a confidence with interviewees, and they must build confidentiality that can protect “identity, places, and location” of participants. The third standard here is “Trust”, which refers to “the relationship between the researcher and the participants”, and it can be the “magic key to building good field relations” (Lee and Lings, 2008: 219-222 based on

Ryen, 2004). Interviewees, likewise, should clearly know their rights of anonymity and preservation of privacy, and be aware that they can initiate the closing of the interview at any time that they wish (McQueen and Knussen, 2002). Studies suggest practical steps that can help to protect confidentiality of participants' data, such as avoiding the storage of names, addresses, and any extra personal data of interviewees on hard drives. Also putting in separate and safe places, all "identifier codes" on data files of interviewees that hold lists of their names and codes, and using separate cabinets to keep copies of the transcript of the data. (Bryman, 2012 based on Holmes, 2004).

The ethical approval of existing research was granted from the university of Bath in relation to this topic and the principles of the Data Protection Act, which related to personal information that has been observed in the development of the research. The research topic is not considered harmful to the participants because it focuses on institutional issues rather than personal issues. Also, the informed consent form was offered to participants (Appendix 8), and they read and signed it before starting the interviews. Furthermore, permission was obtained to use documentation data, and the involvement of the participants in the study was entirely voluntary. The interviewees were informed about the general subject and the purpose of the research by email at the start of the interviews. In addition, the interviewees were informed that they did not have to answer any of the questions if they preferred not to, or felt uncomfortable, and their roles, positions and intentions were made clear. Finally, the universities' contacts and many participants asked to keep the name of their universities anonymous, and that is why the five universities are called A, B, C, D and E rather than their public names. Accordingly, this research is keenly aware of all of these ethical issues and rights of interviewees, as well as the required authorisation of higher education institutions in the collection data.

## **Chapter Summary**

This chapter has outlined the argument for the philosophical and methodological approaches, and the research strategy, based on the research questions developed in this research. The chapter has also argued the chosen data collection approach, which comprises semi-structured interviews and documentary data. The chapter concluded with an explanation of the research data analysis procedures, and the criteria of quality of data used in this research.

The following chapter summarises the within case analysis, reflecting the methods that were described previously.

## Chapter 4: Within Case Analysis

This chapter presents the analysis of the data conducted within each case. It explores five cases with respect to the research question, including an emphasis on the relationship between technological innovation (MOOCs), the culture of universities, and quality assurance. Thus, this chapter presents the analysis of data for a single university in each section. Each section is structured as follows: the first subsection considers the background of the university in question and investigates how they have adopted this innovation. The second subsection examines the culture of the university in relation to the innovation of MOOCs, which can help to analyse and understand how the organisational culture can influence the development of MOOCs in relation to quality assurance. The third subsection analyses the purposes of MOOCs and why the universities provide them. The fourth subsection focuses on the strategic views surrounding MOOCs in each university. The fifth subsection shows the design of MOOCs and how it relates to quality assurance. Finally, the sixth subsection considers the current process of quality assurance for designing MOOCs.

### 4.1 Case A

The following subsections collate and analyse the findings for University A, focusing on several key features of the university's MOOCs provision.

#### 4.1.1 Background and Main Features

University A is one of the top-ranked UK higher education institutions. Founded as a university in the 1960s, it is classified as a “younger” university for the purposes of this study. It is also a “small” institution, with less than 18,000 students. University A is subject to the policy and funding regulations of England. Even though this university does not belong to the Russell group, it competes globally in research.

This outstanding reputation encouraged the FutureLearn platform to invite the university to become one of its partners. This invitation shows the university's prestige, as “*FutureLearn has targeted universities that are either Russell Group, high in the rankings, so it is gone primarily for prestigious, generally older universities, and we are quite unique in that group and being a newer university*” (AP1). However, the staff indicated that they provide MOOCs

for other reasons, such as supporting the market position of the university, the academic experiences of staff, and the university reputation in general (as shown in Table 4-1).

According to internal documents of University A, MOOCs have no entry requirements and can be taken by anyone from any location. MOOCs are intended to be a taster to academic study (i.e. a short introduction to motivate further study) or to explore a subject that learners are interested in. The documents also state that learners are able to read articles, watch videos, discuss course content with each other, and that they only need a maximum of 30 minutes per day (AD1). There is no document available, however, describing the quality assurance procedures for these MOOCs, although the MOOCs' team has its own procedures to enhance the quality of MOOCs according to their views and the guidance from FutureLearn, such as improving the content of MOOCs and reviewing the entire course.

#### 4.1.2 The Culture of the University with respect to Teaching Technologies

The culture of University A does not appear to favour technology over traditional models of learning and teaching. The interviewees were asked how they would describe the culture of their institution, and whether it is reflected at all in their approach to MOOCs. Their responses show that the university prefers traditional methods of teaching and learning over learning technologies, indicating that: *"we are quite slow to adopt new technologies, we are not at the forefront of adopting new technologies, we are quite risk averse and cautious in that way"* (AP2). This statement indicates the limited enthusiasm for adopting teaching technologies, which constitutes a challenge to the development of such technologies at University A. Also, the staff did not understand why MOOCs were adopted and the roles that they can play in the university, indicating that:

*"A lot of people do not know what it is, a lot of people do not care that much, and I know that some people think that it is just an expensive hobby, and we should focus on what really matters"* (AP4).

However, this culture appears to be changing from favouring only conventional methods of teaching to the increasing use of technologies as a way of keeping pace with the expectations of new approaches to higher education, even though the university tends to retain a more traditional culture:

*“You should be keeping up with how technology has moved on, in fact technology has made life a lot easier, so culturally, in the sense that our department, or even the learners are more advanced, mostly, but also culturally within the department, teachers are also moving towards using technology in teaching” (AP3).*

This shift towards a greater enthusiasm for technology could mark a turning point in the way University A adopts and develops MOOCs. Nevertheless, conventional programmes remain dominant features of the university, even if the staff could benefit from technology. MOOCs do relate to the university’s focus on research, however, with one respondent noting:

*“I think there is a lot more we could be doing around technology and innovation and how it is used in learning and teaching, but I think because we have very much a research focus rather than a teaching focus, there are a few other [PhD] students who are looking at MOOCs as part of their research” (AP7).*

Thus, even within a fairly traditional or conventional academic culture, the use of MOOCs does play a role in so far as MOOCs relate to research.

#### 4.1.3 MOOCs and the Objectives of the University

According to the internal documents and staff interviewed, MOOCs offer three broad benefits to the University A: supporting the market position of the university, the academic experiences of staff, and the university reputation in general. Table 4-1 shows some examples of the expected promotion of MOOCs and demonstrates how the staff and the internal documents of University A view these technologies.

References	Benefits	Areas of Support
Interviewees	<i>“They use them more as a promotional tool which enables the institution to demonstrate its expertise and its specialism in particular areas” (AP1).</i>	Market
	<i>“It gets the name of the institution out more widely, and as that is the internationalisation agenda, there is a big push on that at the moment anyhow [....] expose staff to different ways of doing things rather than how they always work” (AP2).</i>	Market, reputation, and academic experiences.
	<i>“MOOCs could be an advertising tool [...] I felt this allowed me to make a difference and influence people and reach people we otherwise would not have been able to reach” (AP4).</i>	Market.
	<i>“Part of the dissemination exercise .... helps academics to understand the responses from potential learners... the engagement that we have, so it sort of is showcasing the research by academics to the world, is one of the unexpected benefits really” (AP3).</i>	Academic experiences.
Documents	<i>The university aims to provide a wide range of opportunities for independent learning, MOOCs help is to learn some new skills and knowledge (AD2).</i>	Academic experiences

**Table 4- 1: Expected benefits of MOOCs at University A**

There is therefore a broad consensus between interviewees that the university is using MOOCs to develop its marketing. MOOCs are used as “*an advertising tool*” and “*a promotional tool*” that can help to demonstrate the expertise of the university and its “*specialism in particular areas*” (AP1). MOOCs can also support the university’s reputation internationally by providing evidence for how the university’s proficiency in delivering academic programmes and experiences. However, the market is not the only benefit that MOOCs can offer to the university. They may also demonstrate the extent of the university’s proficiency in taking advantage of new innovations and utilising them in various fields. Furthermore, both the staff interviewed and the internal documents indicate that MOOCs benefit the university staff in terms of allowing them to learn new skills and knowledge, and to develop experience in the independent learning. Although, these are currently only anticipated benefits.

#### 4.1.4 Strategic Views on MOOCs

The interviewees do not appear confident about the future of MOOCs and the role that they will play at the university. The following statement shows how the future of MOOCs is still ambiguous at University A:

*“There are some saying ... what is the institution... what is our strategy with MOOCs, and I think, as I said earlier, that is still not quite clear” (AP2).*

Also, some staff are not able to predict the future of these technologies and how the university will exploit them, questioning what the specific goals are for MOOCs at the university.

*“I understand there is a commitment to continue producing them, but I think we are still learning what use they are by producing them and seeing what happens, it feels that way round rather than having specific goals and aims in producing them” (AP5).*

One of the challenges that can impede the development of MOOCs is that some staff working on MOOCs do not recognise the benefits of providing MOOCs. Therefore, misunderstandings about the academic role that MOOCs can play probably affect the strategy in regard to MOOCs at University A.

*“What the strategic rationale for the university being involved was, I’m not sure [...] I think really it was probably just seen as something which was innovative new and interesting, and something which it would be good for the university to be involved with, and to see how things pan out” (AP1).*

As a result, there is no clear strategy for the development of MOOCs at University A, even if the university seeks to produce more courses.

#### 4.1.5 MOOCs and Programme Design Processes

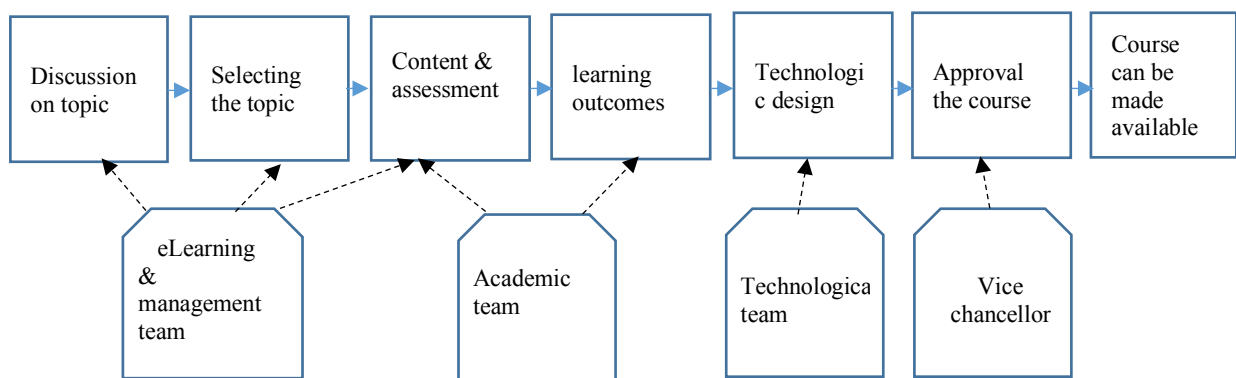
The process of new programme design and approval at University A involves two main stages that ensure a high level of rigorous scrutiny. The first stage is the strategic approval that aims to make sure that the proposal fits with the university strategy. This stage is usually overseen by the board of studies. The second stage is the full academic approval, which aims to undertake scrutiny of the academic details of the proposed new programme, such



as appropriateness of standards to the level and title of the qualification, academic coherence of the programme, and curriculum design principles. In this context, the curriculum design should take into consideration the appropriateness of the range of assessment methodologies in relation to the discipline and their alignment to the learning outcomes. The second stage therefore helps to make sure that the programmes and learning outcomes can be aligned with the correct level of qualification (AD3).

External input is required for approval of new taught programmes, which can be from external examiners, professional accrediting bodies, employers, as well as a report from one or more independent external reviewers. Finally, the full approval of new programmes should prove that the benefits offered by the programme surpass the risks (AD4).

The process for approving MOOCs includes some indicators that are commonly used in the approval of conventional learning at University A, such as the objectives of the course and the learning outcomes. Figure 4-1 shows the detailed process for creating MOOCs, based on the statements of staff interviewed.



**Figure 4- 1: Designing MOOCs at University A**

Staff interviewed were asked about the MOOCs' design process in detail. The following statement explains who participates in the design of MOOCs and the process for designing the first MOOCs offered by the University.

*“First there was the eLearning team and along with the senior management, they put out a call to all departments for expressions of interest, asking if anyone would like to submit a topic – a question for a MOOC. Then there was a selection process, certain subjects were considered [...] and the support in terms of having a dedicated team of eLearning technology people as well as the audio-visual team, so someone to do the filming, editing, someone else to do the finishing touches, creating checking for pedagogy, how many videos do you need (AP3).*

The academics have a critical role in the process, establishing the course topic and continuing to focus on the content.

*“The academics got together and brainstormed what would the topics be [...] so it was a question of them identifying how much information to put in, how much to leave out, and what the layout would be in terms of the alignment of the learning” (AP1).*

There are many proposed topics that need to be differentiated and then decided upon, however. This step is related to learners' expectations and learning outcomes, which help to design the content and assessment. As one academic respondent explained this step in the following statement.

*“You went from topic to topic it had a thread and took you from general to specific easy to more difficult and told a story, so that the student could follow and progress through it [...] we then designed specific learning outcomes for each part, so that we could be sure that the content was specific and didn't waffle, we then had assessment, fairly soft quizzes” (AP5).*

The next step is related to the technologies, including preparing the text that will be shown in the video subtitles. Then the course is signed by the vice chancellor.

*“We need to come up with a combination of text, video, quizzes, topics for discussion, etc, [...] at the end, the entire MOOCs will have to be signed off by the vice chancellor”*  
(AP7)

The staff interviewed, however, state that the university does not use the same process to approve MOOCs that is used for conventional courses, suggesting that a MOOC *“does not need to have as rigorous approval processes”* (AP7). While the process of conventional learning is described as ‘*rigorous*’, the process of MOOCs is described as a ‘*lighter*’ process. According to the interviewed staff, the critical step in the process is ensuring that the content is relevant and specific. It should be noted, however, that the learning outcomes (that should be aligned with the content), do not address the level of the learners, because the course is offered to all learners regardless of their background or academic standard. Even though the content of MOOCs is specific, therefore, it has a different focus from content in conventional courses that target only learners who are qualified for those courses. Also, one of the key differences in the approval processes revealed by the responses is that MOOCs are not subject to the specific procedures that are applied to conventional courses, such as the strategic approval and external input. Lastly, the statements of the interviewees indicated several procedures with respect to the approval of MOOCs, that focus on technological requirements rather than academic requirements - again in contrast to “face-to-face” courses.

#### 4.1.6 Ongoing Quality Assurance

No criteria are used to ensure the quality of MOOCs, but the university assesses MOOCs according to the platforms criteria. In this context, the staff interviewed stated that *“there is no criteria, it depends on the motivation of the individual person, and the motivation of the university”* (AP4). In tandem with this, the FutureLearn procedures are described as a *“quality review”* of the current MOOCs at University A; *“The FutureLearn quality review, so they will review the entire course for us”* (AP2). With respect to the procedures for the content of MOOCs, the staff interviewed indicated that the content is evaluated by other academics.

*“Everything has to be looked at independent of the people delivering it. So the content of the MOOC was looked at by other colleagues, not in our department, elsewhere, to say OK”* (AP3)

It seems, however, that this is a general review that does not use specific criteria, and academics may use only their own views, and do not have to be specialists (because they are from another department).

There is a consensus that the feedback collected from learners is mostly positive. In this context, interviewees suggested: *“we have seen that feedback has nearly always been really positive, so I do not think there is been much of an issue”* (AP4), and the MOOCs’ staff respond to the needs of learners according to their feedback:

*“If people are... say... pointing out that there may be a question, a quiz question that was in there... there is some debate as to whether, the answers that are marked, you know, are correct or in error, or whatever, maybe there is some discussion there, that can be worked on”* (AP5).

This feedback from learners, however, does not provide evidence for the quality of MOOCs, because it can reflect the limitations in terms of the quality of the content. This leads to the question of what the real value of MOOCs is, which is still unknown for the university; as one respondent stated, *“it is difficult to know what the real value is for the university, and thus it is difficult for universities to develop a business model* (AP1).

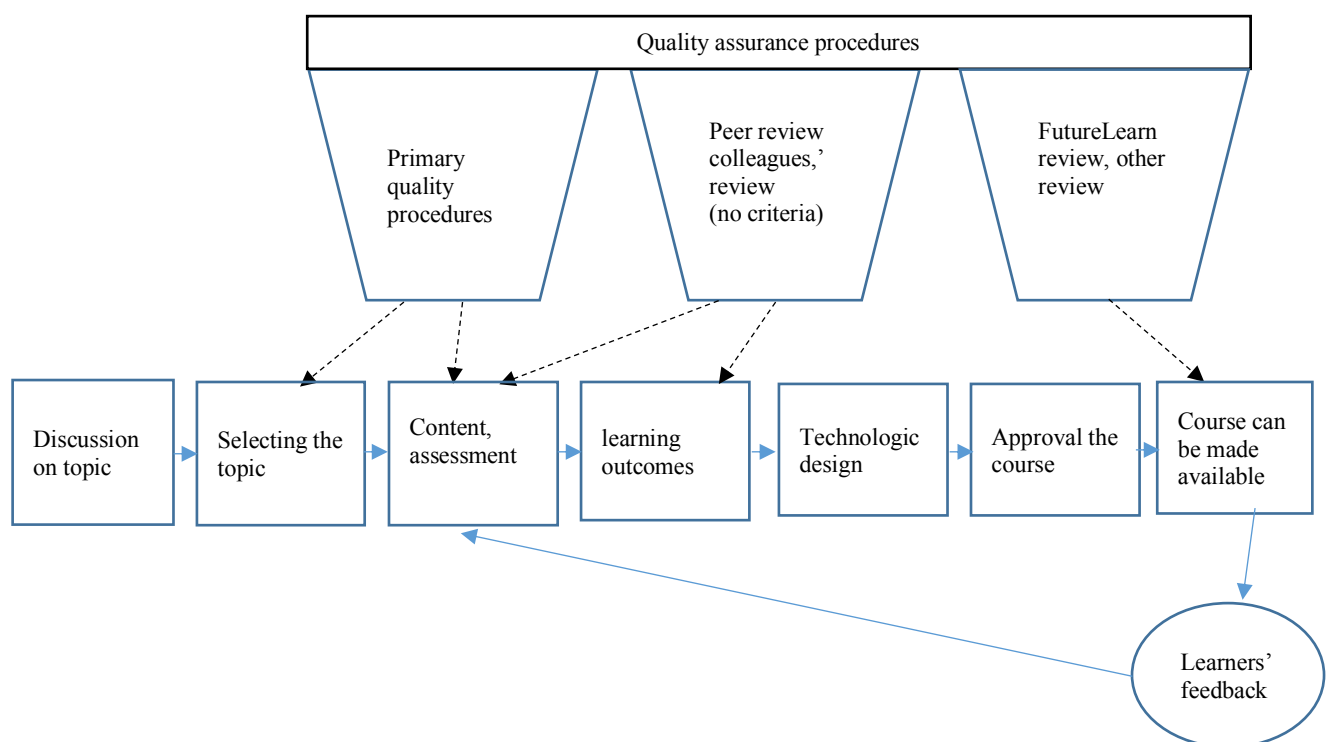
Furthermore, the interviewees indicated that there are some external quality assurance procedures to support MOOCs, such as someone who is objective with subject knowledge, and not part of the university.

*“We got a lady in who worked for BAE systems [...] she made comments on all the videos and the content just to make sure it was correct”* (AP6)

Sharing feedback with other MOOCs’ providers is another example of the external review at University A.

*“As a partnership, so as one of the institutions involved in FutureLearn, we can feed in comments about things that work well in the interface, things that don’t work so well”* (AP2)

This would mean that the university aims to develop the quality assurance of MOOCs, even if there are no specific criteria available, and this approach can be considered as a key process to develop the quality of MOOCs. In this context, the staff appear to believe that the current quality assurance approach used in conventional higher education programmes is *“too heavy-handed”* while MOOCs *“have to be a bit quicker to respond to needs”* (AP7). Therefore, one critical consensus of the staff interviewed is that they suggest designing another approach for the quality assurance of MOOCs, because these courses *“need to be a lighter touch than a full credited programme”* (AP2). Figure 4-2 shows the quality procedures in the process of MOOCs at University A.



**Figure 4- 2: Quality assurance process on MOOCs at University A**

## 4.2 Case B

The following subsections collate and analyse the findings for case B, focusing on several key features of the university's MOOCs provision.

### 4.2.1. Background and Main Features

Case B is a young university that was established in the beginning of the 20th century, initially as a college, before being formally set up as a university, becoming one of the research-led universities in the UK. The university is regulated according to the English policy environment, and it is described as a small higher education institution based on a student enrolment of seventeen thousand. The FutureLearn platforms invited this university to offer MOOCs alongside other leading universities and specialist institutions.

The university is still relatively new to using technologies in its learning programmes, especially in online and distance learning. Interviewees stress that the staff of the university are “innovative”, and that should be taken into consideration when helping people who look to benefit from the university's innovations.

*“I think we have some really fantastic innovative teachers, possibly more than a number of other institutions, but what I don't think we automatically have is that next level of how we take those innovations and really disseminate them outwards and make sure that other people are getting the benefit of them” (BP8).*

This view aligns with the internal documents of the university, which note the rising interest in innovation. This interest has led to the adoption of new technologies, specifically innovation in teaching and learning, suggesting that MOOCs allow the university to keep pace with changes in technology enhanced learning and innovative pedagogies (BD1). Internal documents describe MOOCs as a set of short courses that can give learners a taste of what a degree course would be like to do, and would prepare them for university (BD4), which means that MOOCs are more relevant to learners who have not yet enrolled on academic courses.

#### 4.2.2 The Culture of the University with respect to Teaching Technologies

University B is mainly a research university where an emphasis on learning and teaching only became a part of the university culture recently:

*“We are traditionally quite a heavy research university, so a lot of the culture at the university is around promoting research, rewarding research. Teaching is there and recognised, because we do not have a learning teaching team, but that is only a recent change” (BP9).*

A more recent change in the culture is to provide distance learning that is enabled by “very innovative” staff, and University B seems ambitious to develop these critical areas, which probably led to the adoption of MOOCs. The following statement describes the history of its culture and this new development:

*“It has never been a university that has promoted technology until probably the last... maybe 5, 6 – 8 years, maybe, and then there were research teams set up around 2005 – 2006 [...] so we had a research team that was set up to look at technology innovation and that was around for about 5 years [...] there is a good section of staff who are actually very innovative and forward thinking, interested in the student experience internationally as well as locally, which I think means that as a university we have got this odd culture” (BP9).*

This means that adopting new higher education technologies does not contradict with the values of the academic staff at University B. Even though the university seeks to develop new ways of learning, however, academic staff may not be fully flexible in changing their style of teaching. This can be clarified in the following statement:

*“If there is a scale between being very willing and keen to take up new opportunities, new technologies or new forms of learning, new forms of course development, I would say we are not at the really active end, but neither we are really passive on that level, we are in the middle. I think it is basically because we really want to change, and we*

*really want to innovate. There is a lot of people that talk a lot about that, and we are desperate to try new things” (BP10).*

Moreover, creating a new MOOC does not seem to be an easy decision for schools within the university, and the staff involved in MOOCs face a big challenge when they suggest a course in a department or school that has never offered MOOCs before, describing the discussion as a “battle”.

*“If you are looking to develop a MOOC in a department that does not currently have any, then I think that you might have a bit of a battle there trying to explain and justify why you want to be doing MOOCs, and also the fact that it is not a huge part of our provision again, I would imagine it is quite quite difficult for somebody who might be developing in a department where they were not one already” (BP8).*

This statement indicates that University B does not have a very flexible culture towards developing learning technologies, although its staff tend to be innovative. Also, this means that there is a gap between the traditional university culture and new innovative methods such as MOOCs. This gap does not come as a result of limitations of the new technology, but it seems to have come as result of staff conviction about conventional methods and unwillingness to change.

Staff may look at new technologies as a new “fashion” that the university should adopt as other universities have done, and the university should be open to such culture;

*“It was the fashion. I think that they saw other people doing it and they were persuaded that this was something that they should put their toe in the water” (BP11).*

Thus, looking at MOOCs as a fashion that the university should adopt encourages people to work on MOOCs and may increase the flexibility of culture with respect to new technologies, even though there may be some misunderstanding about the role of MOOCs.



#### 4.2.3 MOOCs and the Objectives of the University

The interviewed staff were enthusiastic about developing MOOCs and sought to expand the courses to involve more academic subjects. In tandem with this expansion, documents describe MOOCs as flexible courses that allow learners to participate individually according to their time and needs. Learners can give up their courses whenever they want, even if the course has not already begun, and there is no limit on the number of courses that learners may take at one time (BD3).

According to this document (BD3), it appears that one of the critical aims of MOOCs at University B is to develop its market position and its reputation. MOOCs can be considered as a tool that helps learners to know about the university and its programmes. They can also, however, provide other benefits that meet the vision of the university. For instance, the internal documents stress the positive impact of MOOCs in terms of aligning with the strategic plans of the university in relation to developing teaching and learning (BD1). The interviewed staff also believe that MOOCs can achieve several aims and benefits and also enhance the academic situation of their institution. Table 4-2 shows the expected benefits of MOOCs at university B according to both sources of data (interviewees and documents).

References	Benefits	Areas of Support
Interviewees	<i>"We looked at ... for recruitment onto our distance learning programmes...we looked at whether we could use it for research, so disseminating research .... we looked at whether we could use it for general public interest" (BP9).</i>	eLearning, research, and academic experiences
	<i>"A sort of marketing tool I suppose, just a way of sort of pushing people towards letting people know about you" (BP12).</i>	Market and reputation.
	<i>"It does relate very much to the university's reputation in digital learning and distance learning particularly, so it is... it is part of the portfolio" (BP8).</i>	Reputation
	<i>"I think actually they support the university, they support the academic, because it is reputational risk and managing that risk [...] and again it goes into this MOOC being a different online space" (BP13).</i>	Reputation, and eLearning

	<i>“Very soft touch marketing of our courses, our paid for courses, and to also take a slice of our teaching material and make it open and available to the public to generate interest and generate more understanding about what my subject area” (BP10).</i>	Market, & academic experiences.
Internal Documents	<i>“Enable the institution to open up new markets, and the current data shows that learners who join courses are from 99 countries” (BD1).</i>	Market.
	<ul style="list-style-type: none"> <li>- <i>Help to engage in the development of learning technology and innovative pedagogies.</i></li> <li>- <i>Offer an opportunity to present the quality of teaching and learning in a large audience, which support the brand awareness of university.</i></li> <li>- <i>Ideal channel for both disseminating research and generating research data (BD1).</i></li> </ul>	eLearning, teaching, market, and research.

**Table 4- 2: Expected benefits of MOOCs at University B**

According to Table 4-2, it appears that both the internal documents and interviewees state that MOOCs offer different benefits, including marketing services such as recruiting more people, opening new markets, and supporting the brand, which means that the current MOOCs at the university can develop its market position. Another consensus that both sources of data indicate is related to supporting research. This seems to be still an ambition for the university and while no concrete evidence shows that MOOCs support this goal, one participant mentioned *“we looked at whether we could use it for research”* (BP8). In addition, participants expect several benefits suggesting that MOOCs can also be used for *“general public interest”*. The university’s aspirations in relation to supporting research and learning is a critical element in developing the quality assurance of MOOCs, however.

#### 4.2.4 Strategic Views on MOOCs

Despite the fact that no document has yet been issued as a strategic plan, the interviewed staff suggested different approaches to the MOOCs strategy. For example, the following statement confirms the new direction of the university towards building a strategy to develop MOOCs.

*“We started to see where we can perhaps devolve a little bit more responsibility, where we can build capacity, because obviously we wanted to keep a tight rein on the quality” (BP13).*

This statement focuses on some academic indicators that are commonly used in conventional higher education (e.g. building capacity and developing quality), and how that should be taken into consideration for developing MOOCs. Furthermore, the staff interviewed stated that they had already adopted a strategy in respect to digital technologies at the university:

*“We have got our first digital strategy for example this year, so it is only this year that we have had a policy or strategy that is mentioned promotion of digital aspects” (BP9).*

This is a supportive step towards the development of teaching technologies, even if the strategy is still in its early stages. The interviewed staff therefore revealed some risks and challenges facing the development of the quality assurance of MOOCs, which means that the current digital strategy does not take the quality risk of MOOCs into consideration. This can be seen in the statement of the member of quality assurance team:

*“They are still required to articulate the learning outcomes, how those would be demonstrated, what the overall outcome of the programme would be, what the sequence of topics would be [...] when it comes to quality assurance the primary risk to the institution is around credit bearing contents. That is not the only risk, and of course we have reputational risks and we have a duty to our students of course through ensuring what we provide them with is a high quality and meets all of the benchmarks [...] we deliberately keep our processes relatively light-touch. I think if they became any more than they are now, and we started requiring them to go through more stages and more phases, then I think it potentially would put off people from doing it, especially given that they are already potentially fighting a slightly uphill battle” (BP8).*

Although University B seeks to address the challenges of MOOCs, therefore, it has not yet developed a strategic plan on MOOCs to overcome the challenges. In addition, although the university wants to benefit from the advantages of MOOCs, several points should be taken into consideration, including the limited procedures developed for quality assurance.

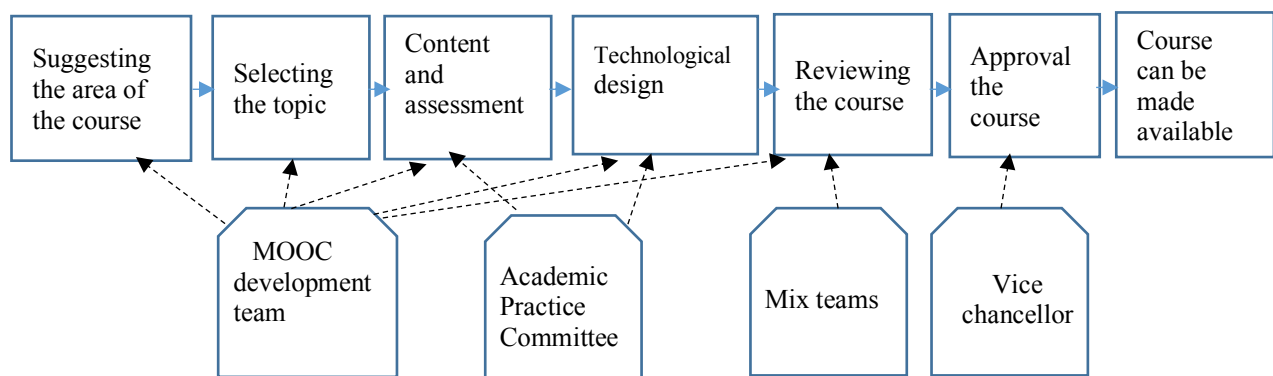
#### 4.2.5. MOOCs and Programme Design Processes

The process of designing conventional programmes at University B passes through several steps, including determining the purpose of the programme, the appropriate level of

qualification, and the flexibility of the programme towards the needs of the learners. The approval process also passes through two steps. The first is developing a business case that should be relevant to a college business group. The second is developing an academic case, which should meet individual college processes, and then submitting the programme to the approval panel. Furthermore, the academic programme needs to be supported by a team comprising members which include an external academic representative who can cover the disciplinary area, a student representative, and a member of the quality office. The team can discuss several issues related to the course, such as the variety of learning and teaching methods, assessment, and student support (BD6).

The design of a minor programme should offer a coherent version of a discipline with adequate breadth, depth and progression to allow a student to achieve the aims of the programme. Furthermore, there are some key stages that are required to design the course. These include, assessing the proposed course and its benefits and discussing the idea behind the course with the head of department and with the partner departments in order to develop an outline course proposal. People who have experience in the curriculum design process should support the course by providing supportive case studies (BD7).

Regarding the design process for MOOCs, there are some similarities with the conventional process, but the difference is in the depth of procedures. Figure 4-3 shows the design process for MOOCs at University B.



#### Figure 4- 3: Designing the MOOCs at University B

The design starts by suggesting the topic of the MOOC to the MOOC development team with other members of the university staff. The following statement describes the initial procedures for designing MOOCs:

*“We have got a MOOC development group who are sort of interested parties basically, so it has people from the (B) learning Institute and then it’s someone from the international office, someone from the distance learning team, someone from marketing, someone from enterprise I think, and then some academics who have taken run MOOCs before as well. So we will ask people to approve a MOOC idea and we have got like an internal form that we asked them to fill in with their ideas and then the MOOC development team decides which ones we are going to go forward with, and then it is just through FutureLearn and whether FutureLearn feel it fits in with their portfolio” (BP12).*

The suggested topic of the course is reviewed by the MOOCs development group and the Academic Practice Committee to make sure that it can be undertaken according to the platforms criteria.

*“Taken to our MOOC development group to say which ones shall we invest in this year [...], so when they have decided, that then goes up to Academic Practice Committee” (BP13)*

The interviewed staff, however, stated that designing MOOCs does not follow the same process as conventional courses because they *“have a lightweight programme approval form” (BP13)*. In tandem with this, the content of the course is also designed according to lighter criteria, and the team can change *“some things”* when required.

*“You do not submit that until the course is basically more or less ready, you know, the content is all there, and the assumption of that is that it will go through, but they might*

*ask you to change some things, but because it does not, at the moment, carry any certification from the university” (BP11).*

Since learners on MOOCs do not get a certification for their courses, the criteria with respect to the content are less rigorous than for conventional academic programmes. Moreover, most of the design procedures are also lighter touch than for conventional academic programmes and can be approved quickly by the vice chancellor:

*“MOOCs need to be approved more quickly in order to get them off to market so we also have the facility whereby the pro-vice chancellor for learning and teaching at the university can take direct action to approve something if there is not an approval panel soon” (BP8).*

Accordingly, there are some procedures that the university uses in both MOOCs and conventional academic courses, such as supporting the course design by involving a range of expertise and committees, but there are also differences in respect of the depth of the procedures, and *“there is no vetting procedure within the institution for that to be a formal process (BP11)*. The approval process for MOOCs, in general, adopts a lighter touch than the process for conventional programmes.

#### 4.2.6 Ongoing Quality Assurance

The university’s internal documents stress a concern over the quality assurance of MOOCs (BD2). In this context, the staff interviewed stated that *“when people first propose a MOOC, we complete a simple quality assurance form which just checks that they have ticked all the boxes on making sure it links with that strategy (BP9)*. The checklist mentioned by the interviewees is the common one that FutureLearn provides all universities offering MOOCs.

The other quality procedure that the university adopts is inviting people who have academic experience to check the quality of MOOCs, based on this personal experience. This can be clarified in the following statement:

*“Someone who has not been involved in the course, who is not so close to it can take a step back and takes the course and then they can actually see whether it is a natural learning journey through and whether it makes sense like whether there is far too much text in one particular step” (BP12)*

This statement indicates that the current procedures of quality assurance do not rely on specific criteria but rather general procedures emanating from the staff’s desire to improve the quality of their programmes. Also, even if the evaluation of the quality of MOOCs by staff or other colleges can support the quality of the courses, there is no consensus among interviewees regarding the efficiency of this process, and therefore no evidence of the quality of the courses.

Furthermore, the interviewed staff expressed the importance of learning outcomes and the content of the MOOCs, stated *“they are still required to articulate the learning outcomes, how those would be demonstrated, what the overall outcome of the programme would be, what the sequence of topics would be. So that is what they are required to collate for the formal approval process”* (BP8). These outcomes are also associated with the content of courses, which is described as light and does not have to be based on specific background, because the course does not require any previous or specialist knowledge, but just general knowledge (BD4). Even though the content is light, the MOOCs staff must respond to learners’ feedback and “redesign” MOOCs. In this regard, interviewees stated that they respond to claims of learners when they feel the course is difficult:

*“If generally people are saying that the level of the course is too difficult, then we will do a redesign of the course to maybe remove some difficult bits and add in some easier sections” (BP9).*

Redesigning the courses and removing sections of the courses or changing the content after launching the courses are indicators that the quality assurance of MOOCs in general is still limited.

Moreover, the procedures in respect to learners who have failed two or three times indicate the limitations of quality assurance procedures on assessment and the learning of MOOCs. Interviewees clarified these procedures in the following statement:

*“We have something like three attempts, we tend to do the three-attempt route. And if you get it wrong on your third attempt, there will be some feedback.... well, actually, every time you get an attempt wrong, it says we recommend that you go back to step X and do that again” (BP13).*

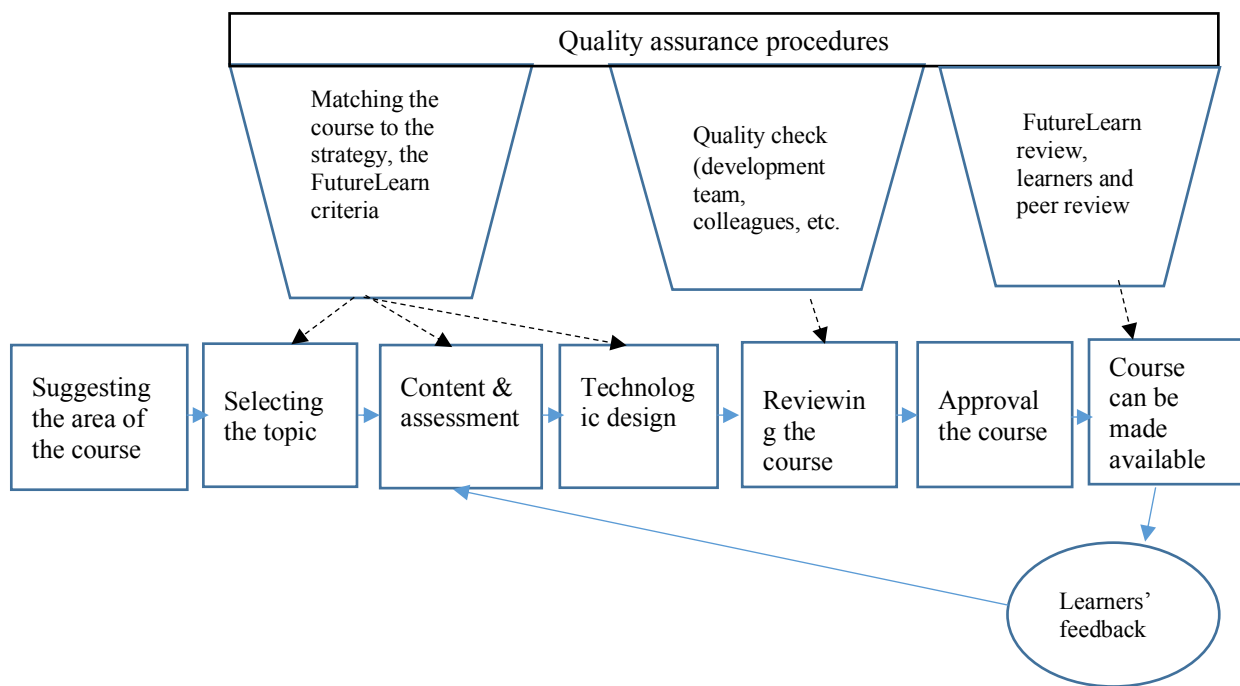
The external review is implemented in two procedures, which are the peer review and the FutureLearn review. The staff seek to take advantage of peer review and they consider it a step in the right direction, indicating that *“there is peer assessment, peer review, which works out on average, every learner could have a review from two other learners” (BP13)*. However, there is no evidence that these procedures are applied based on quality assurance requirements but rather the staff draw upon their culture to maintain quality.

Lastly, the interviewees look at the FutureLearn criteria and FutureLearn’s own structure of quality assurance as the main external review rather than thinking about adopting a traditional approach to quality assurance, such as that of the QAA. In this regard, an interviewee stated:

*“The FutureLearn criteria are more stringent than ours, in the main, so we use those as a basis to do the checking. They are quite detailed [...] they cover length of content, number of hours, response times for staff and all that side of the student experience and course quality” (BP9).*

The interviewed staff therefore comply with FutureLearn criteria to improve the quality of MOOCs, while the approach of quality assurance that is commonly used in higher education may not meet the features and characteristics of MOOCs. Figure 4-4 shows the quality procedures in respect to MOOCs at University B.





**Figure 4- 4: Quality assurance process on MOOCs at University B**

### 4.3 Case C

The following subsections collate and analyse the findings for case C, focusing on several key features of the university's MOOCs provision.

#### 4.3.1 Background and Main Features

Case C is an “old” UK university that was founded in the nineteenth century, and it is also a “big” university, based on the total number of students, which is over 30,000. It manages its programmes through the local ministry of education (LME). The university is also one of the major teaching and research universities, and is a member of the Russell group of the UK's leading research-intensive universities. It is ranked among the top universities in the world in several rankings, such as the QS World University Ranking, and it has received media coverage and awards for the quality of its teaching and research (Daily Telegraph Guide to UK universities).

The university provides MOOCs through the FutureLearn platform that interviewees identify as an easy platform compared to alternatives. The university is still at an early stage in using new technologies specialising in supporting teaching and learning, however, which raises the question of why these technologies are required:

*“The university is developing a new digital strategy- you know - over the next few months, and these are the kind of questions that we are thinking about really - you know, what is the... where do MOOCs fit into ... to the whole digital strategy of the university, those are the big questions that we need to ask” (CP17).*

#### 4.3.2 The Culture of the University with Respect to Teaching Technologies

University C seeks to adopt new competitive innovations that can support its reputation as an old higher education institution in the UK. New innovation is considered a key approach that may contribute to the advancement of the university, and this is the reason why university staff aim to adopt new innovation, even though it may affect the traditional culture of the institution:

*“Although we are an old university, I do not think we are a particularly staid university, I think there is a recognition that you cannot sit on your laurels, you have to be constantly doing new things” (CP16).*

This can be considered a new development in the culture of university staff, which should push towards a wide use of technologies (MOOCs). This new development is still limited, however, due to the fact that staff do not share the benefits of adopting new technologies, or at least, do not prefer to change the conventional learning style.

*“Some schools where actually they are afraid of using technology more, and they do not want to stay away from their traditional way of learning and teaching. They have been learning and teaching without technology for a while now, and they’d rather keep on that track” (CP18).*

The university staff, therefore, are not convinced that the new technologies could be a new development in higher education, which may lead one to think that there is a “cultural problem” at the university; *“if I am being completely honest, there is a cultural problem here at (C) university” (CP18).*

Accordingly, there are both proponents and critics of new technologies at university C, and people perceive technologies differently for various reasons. The proponents are mainly those who currently work on MOOCs and who have already had an opportunity to understand the potential role of technology in supporting the future of the university. The proponents, therefore, indicate the limitation of MOOCs at University because they constitute a small number of staff at the university. The staff criticising MOOCs are those who either have less confidence with using technologies, or those who only believe that the conventional learning and teaching is an ideal system that should never change.

#### 4.3.3 MOOCs and the Objectives of the University

Internal documents at University C describe MOOCs as academic courses more than promotional tools. The documents also indicate that the university was the first in launching critical courses that are led by famous specialist staff, which have attracted many learners around the world (CD1). Although the university seeks to increase the number of learners

through the quality of its MOOCs, the documents do not show the academic criteria that should be used. The interviewed staff, however, expected various benefits that MOOCs offer at University C, which are shown in Table 4-3.

References	Benefits	Areas of Support
Interviewees	<i>“There was a desire to look at the sort of widening access and participation agenda, so opening up our expertise beyond the institution” (CP15).</i>	Reputation
	<i>“Initially it was seen to be about reputation, about getting the brand out, but I think now there has to be a purpose and something that says [...] we are now repurposing for use elsewhere, and I think part of that process has to be how can you use it to gain maximum return on investment” (CP16).</i>	Market, and reputation
	<i>“Internationally, you take a MOOC and then suddenly decide to come to University of (C)” (CP14).</i>	Market
	<i>“It is kind of very more in terms of branding, raising awareness of the strengths [...] public engagement, outreach, you know, involvement with the communities” (CP14).</i>	Market, and social needs
Documents	<i>The courses can be developed in direct response to learners’ feedback which identifies specific linguistic practice needs. One of the specific advantages of learning through MOOCs is to support students who are less confident in some social challenges (CD2).</i>	Academic experiences, and social needs

**Table 4- 3: Expected benefits of MOOCs at University C**

According to Table 4-3 there is a wide consensus between interviewees that MOOCs are used to support the university marketing, which contradicts the focus on academic learning indicated in internal documents. There are no clear views, however, on the abilities of MOOCs to support academic programmes, and their relationship to conventional courses. The interviewees also indicated that MOOCs can enhance the reputation of the university because they showcase the expertise of the university to a broad audience. Moreover, both interviewees and internal documents stressed the benefits of MOOCs in relation to social needs. That is, MOOCs can offer the knowledge that students look for, specifically for those who are “less confident” with social challenges (e.g. disability). The benefits of MOOCs for

some social groups therefore seem to be one of the advantages that the university could get from MOOCs. The benefits of MOOCs are still only ambitions that staff aim for, however (e.g. reputation and market support), and there is, as yet, no clear evidence that these are actually being achieved.

#### 4.3.4 Strategic Views on MOOCs

Interviewees state that the university should have a clear strategy on the development of MOOCs, indicating:

*“It would make our job much easier if we had our own QA strategy here that’s specifically tailored for MOOCs” (CP18).*

Also, the interviewed staff think that MOOCs should be organised and structured carefully, which means that the university looks forward to the development of MOOCs in academia more than marketing, and that staff seek to develop the strategy of MOOCs at the university:

*“We want to have a very clear structure around MOOCs, so we do not want everyone to go off producing them all over the university without any coordination or thought” (CP14).*

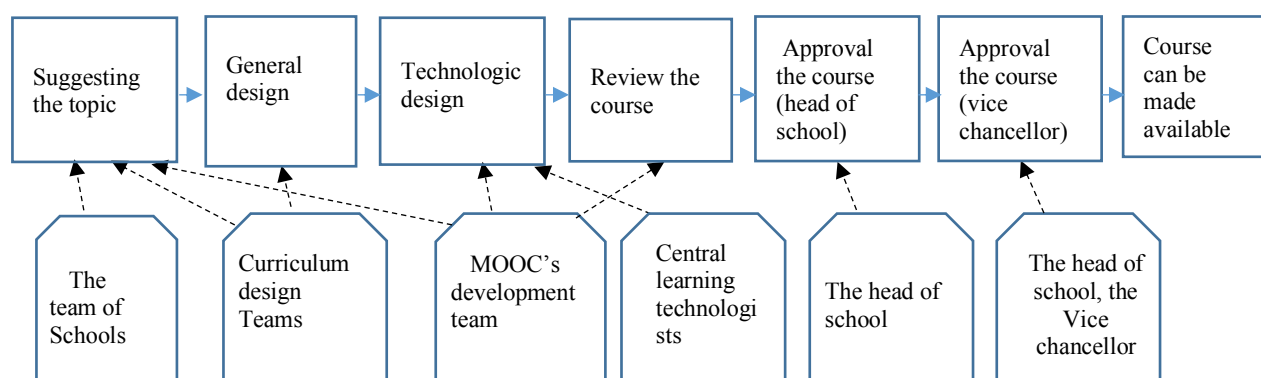
There are, however, no strategic indicators on the development of MOOCs in relation to academic role and quality assurance and, therefore, the strategy of MOOCs at the university is still unclear.

#### 4.3.5. MOOCs and Programme Design Processes

Designing the process of any programme at University C must meet the requirements of the quality codes of UK higher education (e.g. QAA, chapter B1, B3 ... etc.). The whole programme design passes through three principles that the university adopts to ensure robust approval process. Firstly, the strategic approval that is given at the level of colleges and addresses several elements such as costs, risks, reputation and academic considerations. Secondly, the academic approval that addresses the elements related to the academic requirements, such as curriculum design and delivery, learning resources, and student experience. Thirdly, the university approval, which is the final approval that determines that

the programmes align with the academic standards and quality requirements. Modifications to any existing programme must pass through both the strategic and academic stages. The design of process may include further procedures to examine what is working well and what needs to improve more, such as peer review that underpins learning and teaching, periodic review, and external examining (CD3).

Regarding the design process for MOOCs, Figure 4-5 shows the process for the design of MOOCs at University C, according to interviewees.



**Figure 4- 5: Designing MOOCs at University C**

The staff interviewed stated that creating MOOCs does not require complex procedures that vary greatly from the procedures for creating conventional programmes. The differences between the processes for MOOCs and conventional courses are indicated in the following statement:

*“There is a very rigorous programme approval process you would have to go through, you would have to look at the external market and what resources students need, how it is going to be taught, and all the rest of it. But we do not really do that for MOOCs, we have a different kind of process that is a lot faster and more efficient and it is got a different kind of criteria” (CP14).*

The rigorous approval process in conventional courses would refer to the procedures of quality assurance that already supported the university to become one of the best UK universities, but these differ from the procedures for MOOCs, which are described as a “faster” process. The interviewed staff, however, indicated that the design of MOOCs at University C goes through several steps, as clarified in the following statement:

*“Hopefully the school itself has their own learning technologist who could help, and then they have a central learning technologist, and also a kind of curriculum design officer that works centrally, also helping on the MOOC [...] and then we work then alongside the FutureLearn company to look at the quality control, that is really when they come in. But all – throughout the whole process of creating a MOOC, we are there right from the beginning, from planning the skeleton of the actual training into the actual MOOC course into providing some of the resources that would be uploaded and then to actually set up the MOOC and create the MOOC at the end” (CP18).*

Accordingly, the design of MOOCs at University C starts with the MOOCs’ team within the school. This team does not actually design MOOCs or their content, but suggests the topic. The central committee and MOOCs’ team then design the course in consultation with the FutureLearn team. The next step is the role of technologists that create the course and check the validity of the recordings and the filming.

*“It is the learning technologists who take care of all [...] we have a video production person you know who is doing all your filming for you, so, once, once a course has been approved to go ahead” (CP17).*

Thus, the learning technologists at the university inspect the design of the MOOCs right through the whole process from beginning to end, to ensure that everything is going as planned, enabling them to make corrections if necessary, to improve the quality of the MOOCs.

Approval of the course represents the final stage, and is given, firstly by the head of school, and then the pro-vice chancellor for teaching and learning

*“The approval process- it goes through head of school, so my head of school signed off the content and [...] the pro-vice chancellor with responsibility for teaching and learning” (CP16).*

The process of developing a MOOC at University C, in general, seems to be still quite informal and subject to light procedures. The main differences between this process and the common (conventional) process are related to the two critical principles (stages) of academic courses, which are procedures on the strategic and academic requirements. These two stages are still undeveloped in the MOOCs process. For example, the reputational risk, academic considerations, curriculum requirements and student experiences are not considered carefully, when designing MOOCs.

#### 4.3.6 Ongoing Quality Assurance

The interviewed staff indicated that they try to improve the quality assurance of MOOCs by applying a set of procedures. The following statement shows some of these procedures:

*“There is an internal university quality assurance thing, where you present the whole thing to various tiers of senior management, and of course the day-to-day stuff, where the educational learning technology team and their manager are keeping an eye on things and looking through it, and project managing and everything else, so there are a lot of steps in that process” (CP14).*

This means that the staff seek to improve the quality of MOOCs through the approval of managers and regular follow-up with staff on the courses. The next statement shows more details on the procedures that staff implement:

*“The learning technology team might be checking that the transcript is working alongside the video correctly. Or they might be checking that a quiz is functioning correctly” (CP18).*

These procedures can include checking different aspects of MOOCs, such as the text, subtitles and videos. The staff indicated, however, that these procedures are derived from FutureLearn guidance rather than their own internal protocols. *“The standards that we use really come*



*from FutureLearn, which is the platform that we use; we do not really have anything that we have written” (CP18). This statement shows that the internal procedures of quality assurance at the university are still limited, and these procedures do not comply with the specific criteria of quality assurance that are used in conventional higher education programmes. The characteristics of MOOCs, and the benefits that the university expect from them, may be another reason for the limitations in terms of quality assurance processes. “You are not just saying right, this is degree level, so people have to know that, we have to pitch it for a large audience, so we have to just be very general” (CP14). The marketing aims of MOOCs was one of the critical factors that led to light quality procedures, which can also be seen through the university’s desire to increase the number of learners. “You are in much less control about who- you do not know as much about what your learners are like and what they know, do you see what I mean?” CP14).*

Even if the staff try to provide relevant courses, the content also seems to be light in comparison to the content of conventional learning that is designed in detail and to a high level of quality. In this context, the interviewed staff suggest that there is a big difference between the content of conventional higher education courses and that of MOOCs.

*“I think the types of material being developed were very different to the types of material you would have for a university degree programme. So, for example, rather than an hour-long seminar, the content was 4-minute videos or pdf documents. So, the content was very different to other programmes within the university” (CP15).*

Furthermore, although feedback from learners is mostly positive; *“there tends to be really just minor things really” (CP14)*, it does not mean that the quality of the courses meets the requirement of the academic learning, because the feedback can be affected by the light level of the course learning and content. University C has its own procedures to respond to learners’ feedback, however, with the aim of enhancing the outcomes of learning, and offering an opportunity to improve the quality of the MOOCs.

*“We employed two PhD students to moderate the course and provide advice to those learners, alongside the course team. So they were responding to learners live throughout*

*the course, and providing advice and pointing them in the direction of useful materials” (CP15).*

This procedure aims to help learners to better understanding and support learning outcomes. In contrast, there are different challenges that the interviewees mentioned concerning the development of MOOCs, which can constitute a major obstacle to quality assurance.

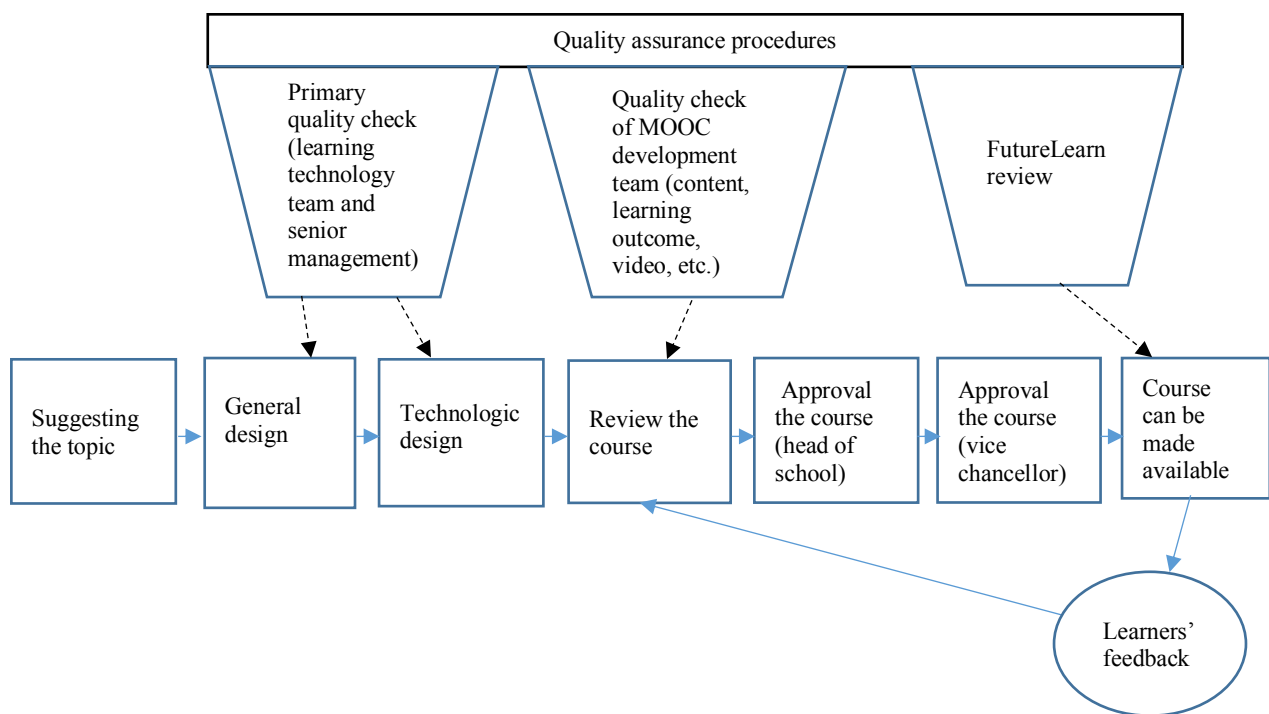
*“I think people are still having trouble seeing actually what does a MOOC provide for a university; as in this University sometimes feels like it is very much like a business, it is run like a business; If a MOOC does not mean profit for the university, then the university questions whether or not we need it” (CP18).*

Also, academic and administrative staff revealed some challenges of MOOCs, indicating that MOOCs may exhaust the university resources rather than support them. *“Budgets are under pressure everywhere, so if we are going to do this, what does it mean? And we have been looking at this very much in this context” (CP16).* Even if these challenges need to be addressed, they indicate the effect of the university culture on the enhancement of quality of MOOCs. In tandem with this, the interviewees point out the challenges related to the FutureLearn procedures, which are not strong enough to enhance the quality of MOOCs and tend to support the reputation of the platform itself more than the courses:

*“FutureLearn ... their quality processes were mostly about ... things like: are the images good; is the video clear; is the audio clear; are there subtitles for each of the videos, so it is ... it is a kind of different interpretation of quality than we have I suppose [...] it is about technical things ... accessibility things [...] FutureLearn approach to quality seems to be about compliance with their ... with their branding, you know and as I say the technical things as well which are slightly different” (CP17).*

Finally, since the university staff view MOOCs as a marketing tool, they do think that the current quality assurance approaches cannot be applied to MOOCs unless it responds to the features of this technological innovation. *“I think the current approach of quality assurance in UK higher education does not fit MOOCs, it needs modifying” (CP19).* Accordingly, even though the university is trying to develop MOOCs and employs them in higher education

programmes, the quality assurance of MOOCs is still limited. Figure 4-6 shows the procedures followed by University C in respect to the quality assurance of MOOCs.



**Figure 4- 6: Quality assurance process on MOOCs at University C**

## 4.4 Case D

The following section collates and analyses the findings for Case D, focusing on several key features of the university's MOOCs provision.

### 4.4.1. Background and Main Features

University D is one of the leading universities among the UK's Russell Group; it is an old university that was founded during the late nineteenth century. For the purposes of this study, the university is classified as a medium-sized university, as the total number of students does not exceed 25,000, including graduates and postgraduate students. The university is subject to the policy and funding regulations of England. It is also classified as one of the top-ranked institutions in the global league tables, and one of the best UK universities, which has led FutureLearn platform to invite it to provide MOOCs.

One respondent believes that new technologies such as MOOC *"fits into Sustainable Development Goals and the Millennium Development Goals for open access to education"* (DP20), and therefore, the university offers MOOCs in specific areas that recruit both national and international learners; *"I think that most of the MOOCs that we have done have been very specifically for niche groups of students"* (DP20). Thus, the courses seem to support enrolled students, as well as learners who are not yet qualified to pursue formal studies.

### 4.4.2 The Culture of the University with Respect to Teaching Technologies

University D tends to promote conventional programmes more than new technologies. That is, the staff of the university believe that technologies should not compete with conventional higher education but enhance it. The following statement provides a clear indication of the dominant culture at University D:

*"People were not using a lot of different technologies, mainly our VLE (virtual learning environment), Blackboard. Most people were unhappy about actually the VLE, I think part of my job was to change the culture by providing support, sending out the right narrative, change the language about technology, enhance the learning"* (DP21).

There is a gap between the university staff and their students, however. While staff are not all enthusiastic about developing a new technological culture, students are more flexible to adapt:

*“Some people prefer the more traditional university experience, but I think as a whole you know, just generally about the university, students seem really engaged with what is around them” (DP22).*

Even though students engage in new technologies, it is difficult to develop these technologies without flexibility in staff culture. In this respect, interviewees criticised the limited use of technologies, and they stressed that it was impossible to rely on conservative culture without thinking about new developments in higher education and bridging this cultural gap. The culture of the university is, therefore, currently a big challenge in terms of creating MOOCs, even though the university started its first courses three years ago.

*“People do not really know what they are or how they work, so if there is any reluctance I think it is more just about not really understanding what exactly a MOOC is. So it is difficult then to fully engage in something if you are not quite sure what the premise is really” (DP23).*

Furthermore, misunderstanding of the role of technologies is one reason behind the unwillingness to use MOOCs. The following statement highlights this cultural challenge:

*“People were promising that if you use technology you can save time, and you can work less, and that is wrong. It is very misleading. My view was that we always had to talk about the pedagogical advantages of using technology” (DP21).*

This statement indicates that the university staff do not appreciate the benefits that technologies can offer, specifically in relation to academic needs, but rather target aspects of technology that may not have a direct academic impact. Although this culture constitutes a challenge to the creation and development of MOOCs, the focus of MOOCs’ staff on “pedagogical advantages” could facilitate the development of a more pro-technology culture at the university, even if that is still limited.

#### 4.4.3 MOOCs and the Objectives of the University

The documents of University D encourage students to engage in MOOCs, describing them as free online courses that are led by professional academic staff and targeting specific levels, such as the first-year undergraduates, or graduates who would like to learn about specific fields. The document indicates, however, that these courses are not only offered to enrolled students, but also to those who do not have any background in the subjects of the course, and that the time needed is around thirty minutes per day, and the usual course period is six weeks (DD1).

From a broader perspective, there are different views on the benefits that University D seeks to achieve by adopting MOOCs. Table 4-4 shows some benefits of MOOCs according to the interviewed staff and internal documents.

References	Benefits	Areas of Support
Interviewees	<i>“MOOCs are just a way of moving forward with that idea and basically helping University (D) to keep up with its students’ learning styles” (DP22).</i>	Academic experiences
	<i>“The reasons that we are keen to be in there is the global market place, the global publicity it gives you” (DP24).</i>	Market
	<i>“The courses are related to global citizenship, sustainability and sustainable futures, and innovation and enterprise, so they kind of interlink” (DP21).</i>	Social needs, academic experiences, Market
Documents	<i>Help in developing the attributes that set out the university skills framework, exploring new pedagogical approaches of online and to be blended learning (DD3).</i>	eLearning, Academic experiences

**Table 4- 4: Expected benefits of MOOCs at University D**

According to Table 4-4, there is a consensus that MOOCs can enhance the academic experience; for example, MOOCs can explore *“new pedagogical approaches”*, and also develop *“learning styles”*. This means that the university seeks to use MOOCs to underpin and support current students. MOOCs can also be a way to develop the university within its target market. The interviewed staff stressed that University D attempts to address social needs through its courses (e.g. global citizenship), even if that is still only an aspiration and

lacks evidence. Further, addressing critical courses (i.e. the globalisation of higher education) can be a key element to developing the quality assurance of MOOCs.

#### 4.4.4 Strategic Views on MOOCs

The interviewed staff indicated that there was lots of discussion on the strategy of MOOCs, and the university expects to establish its strategy to include new developments in learning and teaching, as demonstrated in the following statement:

*“We are thinking of the wider strategy for the institution, changing the way the university teaches in the future, so there is lots of discussion about things like flexible and inclusive learning” (DP2).*

Also, the interviewees indicated that, although MOOCs are not conventional academic courses, they can be used to bridge the gap between enrolled students and those who are not enrolled, regardless of their non-academic background, which is why the staff should develop a strategy for these courses.

*“We can offer to students ... both existing students and potential and in the wider community, and bridging that gap between academia and non-academia. So they are perhaps not a traditional [...] so we are exploring different ideas in terms of assessment and in terms of quality, and in terms of what we think is a good standard, or is an excellent standard” (DP2)*

University D, therefore, looks forward to continuing its development of MOOCs from a strategic perspective, even if that is still in the early stages.

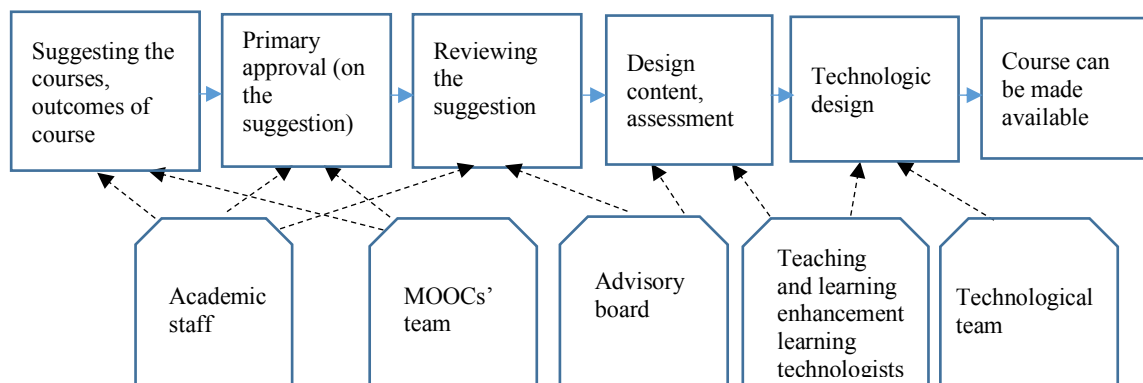
#### 4.4.5. MOOCs and Programme Design Processes

The design of academic courses at University D is subject to its own criteria and processes that are based on the QAA. The university pays a lot of attention to the development of its curriculum, because it can be a trigger to renew or reform the content of the university's courses. Also, the university focuses on the learning outcomes, and it considers clear intended learning outcomes as one of the most important characteristics of a good course. The learning

outcomes of any academic programme are addressed by the education committee who review how the proposed programme intends to achieve them.

Furthermore, the approval process for conventional courses must include careful structuring and specification, such as the unit sizes, unit aims, level of study, assessment practices and innovations, and engaging with external reference points. The process therefore includes comprehensive procedures that any programme should pass through (DD4).

Creating a new MOOC at University D necessitates also deep thinking around the expected learning outcomes, which is a complex task for the MOOCs' team. Figure 4-7 shows the main procedure for designing MOOCs at University D.



**Figure 4- 7: Designing MOOCs at University D**

The MOOCs team, alongside the academic staff, provide different ideas that help the Senate to make a decision, which reveals different views of what process the MOOCs approval goes through.

*“The design process that we were given initially was here is the three themes that senate and the university have decided on [...] come up with some creative ideas, and we are*



*not going to give you too many constraints at the very beginning [...] and we are probably thinking of FutureLearn [...] and they said just design, and then send your ideas back, and we will have a review with an advisory board of our very senior academics, very experienced academics [...] you want them to be representative and cohesive for the university” (DP20).*

Also, the ideas are discussed with and approved by the “*senior academics*” in the advisory board of the university, which means that the university seeks to adopt only high-quality ideas for MOOCs. In addition, it is necessary for academic staff to continue reviewing the course during the learning design to ensure that pedagogical values and principles are taken into account. This is a vital activity that takes a lot of effort, and is seen as critical to the quality assurance process for MOOCs at University D.

*“We do work closely with academic staff while we are doing the learning design as well, because obviously they are experts in pedagogy as well, so they can help with that, and we just- they are experts in pedagogy, but we can look at things through a digital lens because we are used to doing that [...] we are at the stage of coming up with course plans, so we have put all of them into a comprehensive course plan on an excel spreadsheet, and now we are asking staff to provide the content for each step that has been specified [...] we have to be open to changing it if we have tested it with students and it does not work, and things like that” (DP22)*

Academic staff do not view MOOCs as conventional courses, however, even if they are designed to meet similar criteria.

*“It is almost developing a curriculum for online is almost like software development than older cascade management style. It is more about working it, building it, testing it, reworking it, until you get what you want. I think the important things at the early stages, which are identifying what you are trying to do, identifying who your audience is, and that gives you working out what the course is about” (DP24).*

The staff believe that approval procedures of University D can enhance MOOCs in a similar way to a conventional course, therefore, because the design process for MOOCs passes

through some of the same procedures as conventional courses, such as the emphasis on the quality of ideas and content, learning design, and pedagogical values.

#### 4.4.6 Ongoing Quality Assurance

The majority of interviewed staff believe that quality assurance is not a formal part of their work, but ‘ethically’ it should be considered in the delivery of courses.

*“We are under no legal obligation for quality assurance. So we do not even have to remotely do quality assurance. But ethically we do have to do quality assurance” (DP20)*

This means that the staff of University D seek to enhance the quality of MOOCs, even if they do not have specific criteria to follow. Procedures on quality assurance are still at an early stage and are “*not rigorous enough*” (DP24). They can also be affected by the orientation of the university in terms of why it has adopted MOOCs, and what its ultimate goals are.

*“Of course, that very much depends on what their aims were at the start, which is where thinking about the entire design process” (DP22).*

For the content, the current quality procedures in part follow the conventional academic approach since students and other committees participate in reviewing the content.

*“The students’ union staff, my counterparts within the informal curriculum, they have also worked with the green curriculum team and other student teams and student representative officers to invite student ideas as an ongoing process” (DP20).*

Furthermore, internal documents indicate that the course is designed for first-year undergraduate students and any other learners (DD1), which means that the content should be relevant for both formal and informal learners. This is the reason why the staff try to take into consideration some features of academic courses.

*“I had to put together information about the course content, the learning objectives behind, the assessment that I was going to use, and then it was discussed at the faculty under the graduate studies committee” (DP21).*

The participation of learners who do not have a university background, however, affects the quality of the assessment, because the team is forced to offer assessment that meets the level of those learners, which affects the assessment criteria. *“There is a lack of criteria, but I think it is also just reimagining the way that we think assessment should work in the MOOC environment”* (DP23). Also, assessment seems to be affected by the objectives and the purposes of MOOCs that the universities look for, as one respondent stated:

*“We want students to be doing them for very different reasons than they would be doing other courses, so then the assessment has to sort of reflect that”* (DP23).

This is why there are thousands of comments (feedback) on the content and the assessment, and the response to all these comments is considered a challenge to the MOOCs team.

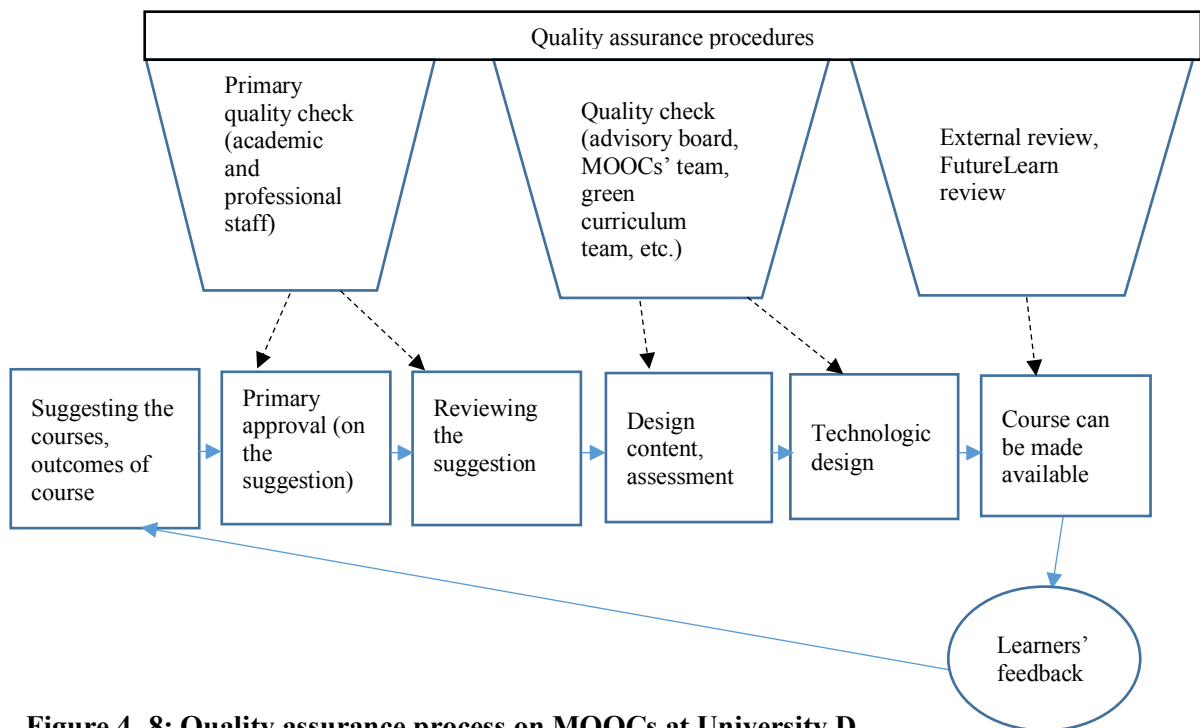
*“That it could be quite difficult if there is thousands of people making comments, there is thousands of comments to go through, so we discussed the use of different types of hashtags, and would those have search functionality”* (DP26).

Furthermore, the interviewed staff indicate that there are some challenges that affect the quality assurance of MOOCs generally. For example, while University D aims to support its conventional courses with MOOCs, the staff stress that there is a lack of clarity on the purpose of MOOCs between the university and the MOOCs platform, as they stated, *“we do not know what kind of education level they are going to have, or what sort of interests”* (DP23). This inconsistency of views seems to lead the staff to lean toward enhancing the quality of MOOCs by the same criteria that are used in conventional courses rather than the platform criteria. The following statement clarifies why the staff look to apply the same quality approach as used for conventional higher education programmes on MOOCs.

*“The process of thinking about how to do it is essentially the same as thinking about how to do it in a classroom situation, so if in a classroom you are assessing, you know, how good your content is in terms of engagement level, in terms of accessibility, in terms of, student interaction, you can do exactly the same things on a MOOC, but you just have to think of it through that digital lens, so I think you definitely can, but one thing that I do*

*think, is that it has to be a little bit more accessible for MOOCs purely because they are open and they are massive” (DP22).*

Even if the current quality procedures are limited, therefore, the belief that the quality assurance of MOOCs can be conducted using the established quality approach helps to develop the culture of university. Figure 4-8 shows the process of quality assurance of MOOCs at University D.



**Figure 4- 8: Quality assurance process on MOOCs at University D**

#### 4.5 Case E

The following subsections collate and analyse the findings for case E, focusing on several key features of the university's MOOCs provision.

#### 4.5.1. Background and Main Features

University E is one of the oldest UK higher education institutions, and in this study it is also categorised as a medium-sized institution based on the number of students, which is more than 25,000. The university is regulated by the Local Ministry of Education (LME), and is recognised by its global research and its spirit of innovation, as well as the high quality of teaching. Technology is particularly prominent in learning and teaching at University E. The university offers MOOCs on both the Coursera and FutureLearn platforms, and there are aspirations to join the Edx platform. MOOCs therefore have a very high profile at the university, which recruits a high number of learners around the world.

Interviewed staff and internal documents suggested several reasons for working with multiple platforms. The first reason is the range of courses that the university aims to provide. The following statement clarifies this reasoning:

*“We considered when developing MOOCs which is the right platform [...] if we are covering the UK election, that may not be appropriate to sit on a US platform [...] thinking about what is your actual subject for the MOOC will perhaps drive what platform you go on” (EP27).*

This statement seems to be very specific because the number of relevant courses is quite low. The following statement, however, stresses the importance of reaching different countries, but adds the strengths of different platforms as a second reason:

*“There is something to be said for a UK based one, but then that may not have the same global reach as say Coursera. Coursera is the oldest in the market, and probably you know, benefits from being one of the longest-running MOOCs platforms. edX has the option for open-ended courses, not just session-based” (EP28).*

The advantages of the platform seem to be a critical reason for choosing it, which is confirmed by internal documents showing that Coursera is the most scalable platform, manages preparation of learners, offers high quality criteria, provides a space to advertise MOOCs, and offers access to admin and learners' data (ED1).

The third reason is related to staff choices and preferences, indicating that there are no specific criteria to choose the platform other than personal preference:

*“Other people ... they already work with a platform ... some of them want to change, some of them just want to carry on, and they choose it for us” (EP30).*

There is therefore a high degree of flexibility to change from one platform to another. The MOOCs team chooses the platform according to the proposal of courses and what platform is the best for that subject, which should also ensure access to the features and reputation of the platform. Coursera, for instance, is the oldest platform in the market and the university probably benefits from its reputation in terms of increasing numbers of learners. FutureLearn is the UK platform that would support the university as long as its criteria are applied. The university may not rely only on MOOCs’ platforms to make its content available, however, but also use other platforms such as YouTube. The following statement feeds some implicit reasons to choose the way of publishing courses.

*“In philosophy especially, we have tried to make all the MOOC videos accessible through YouTube, so you do not have to sign up with Coursera and do a course like that to get access to the videos” (EP29).*

Thus, the university seeks to enable people to watch MOOCs videos through YouTube without registering on platforms. This decision is not driven by differences between MOOCs platforms or their quality criteria but rather furthers other aims that the university has, such as increasing the number of participants, and developing its reputation.

#### 4.5.2 The Culture of the University with respect to Teaching Technologies

Besides the conventional courses, online learning is a common approach at University E that constitutes over 65 courses. Also, MOOCs are expanding and developing online courses and within a new educational environment (i.e. fully online, open to all regardless of the background of learners and their geographical location - ED1). That is why the university seeks to reinforce its position as a leader in the use of educational technology in higher education. Interviewed staff stressed that the culture of university is much more flexible

towards expanding the use of technologies and achieves this without conflicting with traditional learning.

*“I think in general MOOCs are seen, are well-known and seen in a positive light, we have a queue of people wanting to produce MOOCs on a range of subjects [...] there is no shortage of people who want to, want to use MOOCs, and I think that people see MOOCs as pure individual academics can see the benefits of becoming involved in MOOCs in that it is a very very excellent profile” (EP28).*

Not all people have a positive view of technological development, however, or at least they do not understand why MOOCs are adopted and how they can affect conventional approaches to higher education at the university: *“a lot of people who were keen to get involved in it, while some might have been a little bit nervous” (EP27)* and *“you have different people pushing in different ways” (EP29)*. This can be linked to the current approach to MOOCs, which is oriented towards public learners with lower expectations and abilities than traditional learners at the university, as one respondent indicated as follows,

*“Audience is very different, and the messages have to be much shorter, the way that you deliver content has to be shorter, it has to be quite tightly scripted [...] we have not really implemented the MOOCs for the students at our university, because we were very careful to identify our students at the university are students and they are fee-paying, and they have come here, or they are, by distance, doing a programme of study. Whereas our MOOCs are participants, they are not university of (E) students, they are participants that have signed up to the MOOC for different reasons” (EP29).*

The university therefore works on differentiated levels of learning as a result of flexibility of culture with regards to adopting new technologies and innovation. MOOCs are still offered to different levels of learners but are not as popular to the university students due to the limited content compared to the conventional learning. The flexibility of culture with regards to MOOCs did not come as a result of the development of learning technologies but rather because of the desire to use them for other purposes.

### 4.5.3 MOOCs and the Objectives of the University

According to internal documents, the university looks to MOOCs as a form of experimentation and for development of online delivery methods, which could offer an opportunity to large cohorts of learners (ED1). Also, documents indicate that MOOCs aim to be “fun” and to develop new ways of teaching as well as supporting the university’s reputation (ED2). Describing MOOCs as fun, however, reflects the aim to encourage people to join courses, despite the fact that the university seeks to benefit from MOOCs in a wide range of ways that can be linked to its overall strategy as a university. Table 4-5 shows some benefits that are indicated from both the sources of data.

References	Benefits	Areas of Support
Interviewees	<i>“A MOOC helps your reputation if you do it well. I think University (E) has a reputation and it wants to maintain a reputation of being outward facing....” (EP31).</i>	Reputation
	<i>“It was about public engagement [...] it was very much about also taking risks, and being innovative in a space that would allow us to do that, and work with a group of participants that weren’t our students” (EP27).</i>	Market, reputation and academic experiences
	<i>“One thing to do with that is University (E) is very forward in thinking in terms of online learning area, but also to do with innovation” (EP28)</i>	Online learning, academic experiences
	<i>“We have also had very useful anecdotal evidence that people that have engaged on MOOC programmes have subsequently enrolled into our postgraduate programmes” (EP32).</i>	Market
Documents	<i>The university would reinforce its position as a leader in the use of educational technology in the higher education sector, and would outreach to new learners, as well as getting a chance to learn lessons that maybe applied in the university educational portfolio (ED1).</i>	Reputation, market, and academic experiences

**Table 4- 5: Expected benefits of MOOCs at University E**

According to table 4-5, the interviewees and documents indicate four areas that benefit from MOOCs, which are market, reputation, academic experiences and online learning support. Some of these benefits have already been achieved, such as developing the university’s



marketing by enrolling more students. Other benefits seem to be ambitious, such as using MOOCs to support academic experiences and reputation. The staff interviewed do not offer clear evidence about how MOOCs support these critical areas. Nonetheless, there are high aspirations related to the ability of MOOCs to achieve the university's aims. For example, the documents indicate that MOOCs are adopted to reinforce the university position as a leader in educational technology (ED1). This means that the university staff aspire to develop MOOCs as part of their broader experience in online education.

#### 4.5.4 Strategic Views on MOOCs

The strategy group at the university meets regularly to develop MOOCs and to ensure that these courses are offered according to the needs of the university. The following statement clarifies the people who are entitled to be members of the strategy group at University E.

*“We have a strategy group that meets periodically that reviews these proposals, and the people who sit on that strategy group are high, you know, assistant principals and vice-principals of the university who own strategies, so who own the learning and teaching strategy, or the public engagement strategy or the internationalisation strategy” (EP29).*

Reviewing MOOC proposals can be one of the steps that help to improve the quality of these courses and to use them in support of the university's goals. The university does not expect to develop MOOCs in the same way as its other courses, however. This can be seen when the respondents stressed that MOOCs are still fully outside the curriculum:

*“We have not really embedded any of the MOOCs into the curriculum. That is not to say we have not used videos in the MOOC in curriculum, but we have not embedded an entire MOOC in the curriculum” (EP27).*

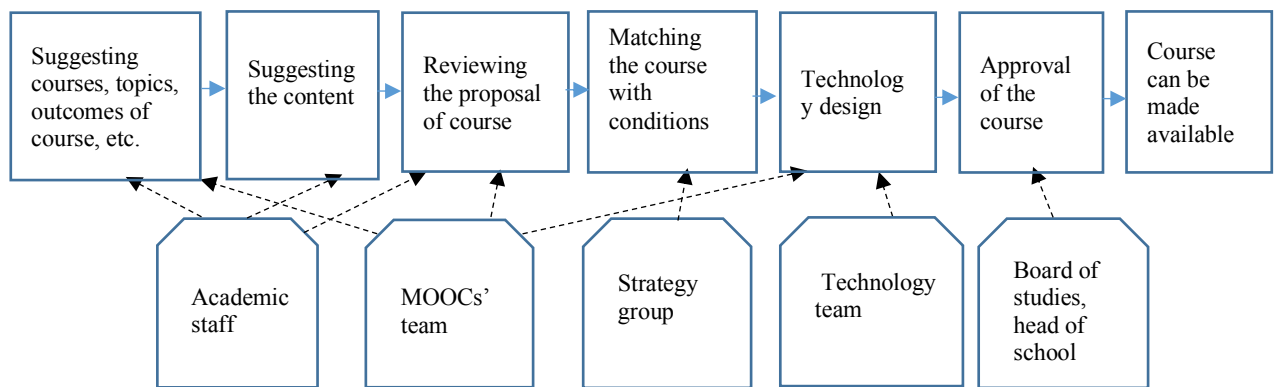
The challenges inherent in MOOCs are not fully addressed in the university's strategy. Despite their prominent use in several courses that the university has launched there is no clear direction in respect to the MOOCs' strategy at the university.

#### 4.5.5 MOOCs and Programme Design Processes

Designing a conventional programme and course at University E is described as a creative activity that develops innovative ideas and leads to the creation of new programmes (ED4). The design and development of any programme is usually executed at the level of schools or subject areas. The process of designing programmes must cover several areas, such as the content, modes of delivery, structure and components, assessment and feedback methods. Students should be engaged with the curriculum design to ensure the development of a coherent programme. The process may also be used to develop, enhance or monitor existing programmes, and must consider a direct link between every programme and its assessment (ED5).

There are different people who should be involved in the committees within the design process. These should include: a member of the quality assurance team; deans of programmes (e.g. undergraduate, postgraduate, learning programme ...etc.), directors of programmes; a member of the students' association, and an academic governance representative. Those members should make sure that the design of programmes aligns with the learning and teaching strategy at University E (ED6).

For the design of MOOCs, the internal documents indicate that prior experience with online courses may not be relevant to MOOCs and creating courses in many fields. MOOCs are a new domain and staff involved in the design of such courses typically need a number of training sessions to help them (ED1). The design of MOOCs also includes rigorous steps that should enhance their quality, however. Figure 4-9 shows the main steps involved in the design of MOOCs at University E.



**Figure 4-9: Designing MOOCs at University E**

The first step in creating a MOOC starts with the academic staff who are asked several questions related to initial justifications of the course, such as: *“What is it that they want to develop? Why do they want to develop it? Who is their targeted audience?”* (EP27). Other questions need to be answered before starting, and convincing answers to those questions lead to the course creation:

*“What you want the MOOC to achieve, so the objectives of it. Then you would start saying what topics do you want to cover. And then once you have got the topics, you would think well how do I cover that”* (EP31).

In the next step, the academic staff suggest relevant content for the course according to their area of expertise. The suggested course will then be reviewed by a strategic group that has experience in different areas; *“they review the MOOC proposals and the courses that we are going to support are selected by them, essentially”* (EP29). This is a critical step that the proposed course must pass through, even if the academic staff have already passed the initial checklist.

*“There is a checklist the academic has to look at this checklist, and has to satisfy all the questions that we put down in this checklist”* (EP27).

The approval of both the head of school and the board of studies are required to launch the new course.

*“Each MOOC has to have the approval of the head of school, and also it has to ...it should also go through the board of studies before it is launched, so the board of studies is where any new course within a school has to go through that board of studies to have approval” (EP28).*

Accordingly, designing MOOCs at University E includes some rigorous procedures due the supervisory role of the strategic group, which should enhance the development of these courses. There are both similarities and differences between the process followed by conventional programmes and that used for MOOCs. The emphasis on the aims and content of courses is a clear example of the similarity of processes, while the relatively short courses and the need to comply to the platforms' criteria (e.g. checklist) are clear indicators of differences between the processes.

#### 4.5.6 Ongoing Quality Assurance

The internal documents and staff interviewed at University E indicate that the quality procedures for MOOCs are lighter than those for conventional courses. The central MOOCs' team is responsible for checking the quality of the courses, as indicated in the following statement: *“when we finish a MOOC, we would send it over to the university central MOOC team, and they would look at it and give us any feedback, how we could improve it” (EP31).*

The FutureLearn and the Coursera instructions are essential criteria that the MOOCs team uses to ensure minimum quality requirements. *“The platform sends us a checklist ... a quality assurance checklist” (EP30).* This means that the procedures on quality assurance when designing MOOCs are generally quite limited due to the fact that no other quality guidance has been used. In addition, the internal documents stress the limitations of this quality assurance, stating that although all MOOCs are reviewed through university course validation channels, the processes of quality assurance are ‘lighter’ than the quality process of conventional courses (ED1).

The limitations in quality assurance connects with the emphasis of the interviewees that the MOOCs content is not designed for traditional programmes, which means that they are also lighter than traditional content.

*“We do not use MOOCs as our mainstream curriculum. MOOCs are very much for the general public, which might include our students, but they are participants on the MOOC ... typically, a postgraduate level will be level 10 and 11, our MOOCs are aimed at an undergraduate level, so it is much lower down in the qualifications framework” (EP27).*

Although the procedures for assuring quality of content are monitored by the central support team, the learners are “*very different*” in that the content is not only for undergraduate students, but also for those who have different backgrounds, meaning that the content is more limited, than that of other university courses; “*because your audience is very different, and the messages have to be much shorter, the way that you deliver content has to be shorter, it has to be quite tightly scripted*” (EP29). The staff, however, think that the approval of the curriculum by the board of studies can be considered as an indicator of the quality assurance of the courses; “*the curriculum has to be approved by the board of studies, so that is one route for the quality assurance*” (EP29).

Furthermore, the internal documents indicated that the academic staff consider different styles of learning enhance the quality of the courses. Also, the interviewees indicated that they seek to enhance the quality of assessment and the outcomes of learning of MOOCs in a similar way to conventional course. The following statement clarified these procedures:

*“One of the things that we are trying to do with our face-to-face courses is to think about assessment at the very beginning of that design process, so, you know, thinking about what the learning outcomes of a course are, and then thinking about how those are going to be assessed, what is the best form of assessment, and then designing the student journey back from that” (EP29).*

Accompanying this, the internal documents indicate that the range of pass grades is between 40% and 65%, taking into consideration the criteria of assessment and the approved grading policy. The percentage of learners who think the MOOC is too easy is less than 23%, and those who think it is too difficult is less than 25% (ED1). This would mean that both the range of pass grade and the range of people who find MOOCs neither too easy nor too difficult (which is 52%) seems to be acceptable. The interviewees, however, believe that the

assessment is still inappropriate and that there is a need to think about how this process can be developed; *“the assessment area is the area that needs a little bit more thought”* (EP27).

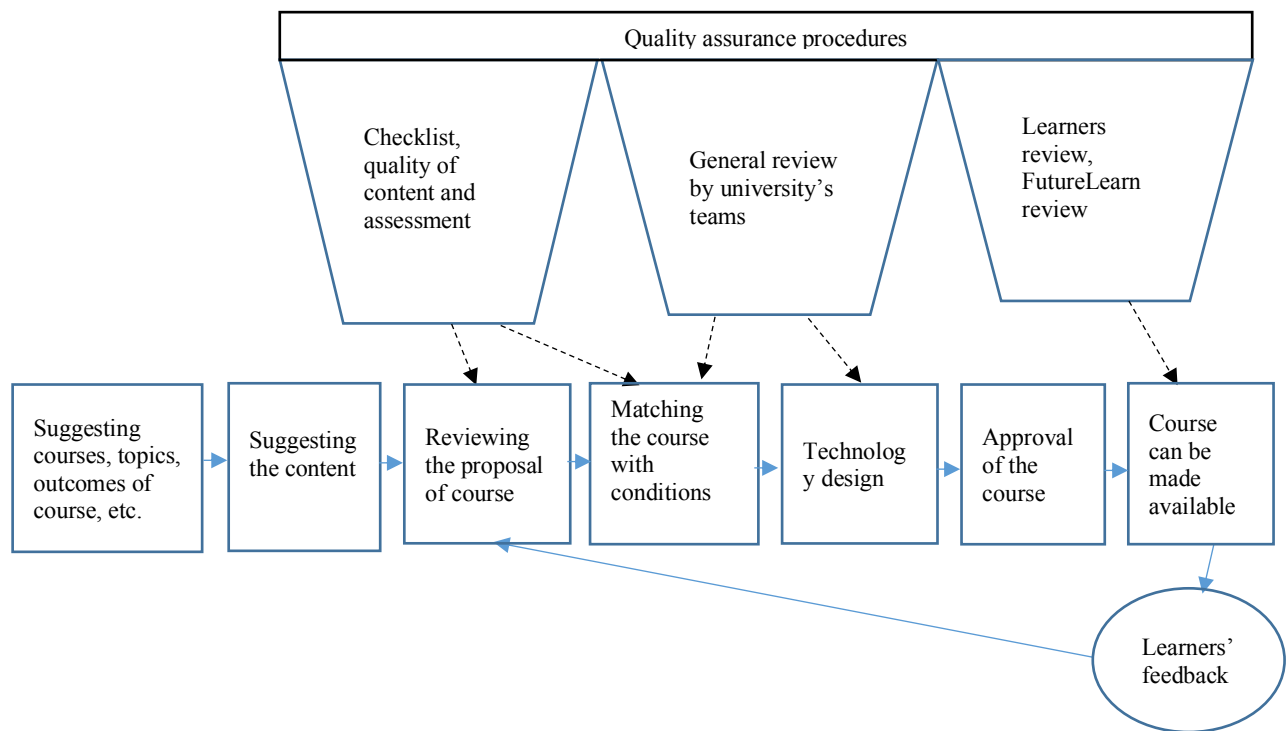
Moreover, besides the general comments (feedback) that learners leave on the course, the staff interviewed at University E indicated that they use a survey to obtain feedback, *“we also have continual feedback from our students through end-of-course feedback surveys”* (EP27), constitutes a good mechanism to collect data on specific points that learners may not be able to express. This also confirms the flexibility of the culture at University E towards developing MOOCs.

In terms of challenges, the statements of staff indicated that the teaching and learning in MOOCs is not the same as teaching and learning within conventional higher education. *“It is quite different from lecturing in front of an audience, and I think learning to do that in a way that looks good and keeps people interested and is effective, I think that is quite hard”* (EP31). This is a critical point that expresses the essence of the difference between MOOCs and face-to-face learning, which means that staff aim to take that into consideration in the criteria of quality assurance for MOOCs.

Regarding the platforms criteria, the staff interviewed indicated that the platforms’ procedures are useful. There is some uncertainty about the adequacy of these procedures, however, because they may not completely meet the strategy and experiences of the university: *“there is a lot of tips on how to make good videos, how to make good quizzes [...] they are quite useful, but they are not created by the university”* (EP27). These tips seem to represent the aims of the platforms themselves rather than the higher education approaches, such as the focus on videos that can help to support the reputation of platforms itself. Also, the university does not have other external reviewers on MOOCs, especially, institutions that work on quality assurance support, such as the peer institutions. The interviewed staff, therefore, seemed to converge on a position situated between the current quality approach of conventional higher education and the needs of MOOCs. That is *“MOOC proposals go through the same process that any course goes through”* (EP28), and they are also similar to online courses that the university provides. The following statement describes this convergence:

*“They are very similar to our development of online distance learning Masters programmes for example. So a lot of the processes will be very similar or identical [...] so they would go through a quality assurance process which means that they need to consider things such as accessibility and usability as well as academic rigorous (EP27).*

Accordingly, the staff strive to enhance the quality of MOOCs based on criteria of conventional academic courses which take into consideration the characteristics of MOOCs, such as videos, quizzes, content ...etc. Figure 4-10 shows the process of quality assurance with respect to MOOCs at University E.



**Figure 4- 10: Quality assurance process on MOOCs at University E**

## **Chapter Summary**

This chapter has presented the within-case analysis of the data collected for this study. It has explored each individual case in terms of the background of the universities, the institutional culture, the expected benefits of MOOCs, the strategy for MOOCs, the design process of programmes, and the quality assurance procedures for MOOCs. Each of the research questions has therefore been explored in relation to the five case studies (Universities A, B, C, D, and E). The next chapter presents the across-case analysis in order to highlight the similarities and differences.



## **Chapter 5: Cross Case Analysis**

This chapter provides a detailed analysis of the main concepts that are included in the study. It addresses the research questions by integrating the findings from the five universities. The chapter includes three sections, covering the research question in order. Section 5.1 reviews the principles of quality assurance in the five universities. Section 5.2 shows the findings on the innovation and quality practice. Section 5.3 addresses the impact of culture on the quality assurance and MOOCs and reviews the relevant approaches of quality assurance to MOOCs.

### **5.1 Quality Assurance Procedures**

This section presents findings addressing research sub-question one:

*To what extent does quality assurance obstruct or develop innovation?*

Higher education institutions are obligated to evaluate the quality of their programmes to ensure that the quality of those programmes enhances their market position and supports their reputation (Mainardes and Domingues, 2010). Although several studies have suggested that quality assurance can enhance innovation (e.g. Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Lee, 2015; Zeng et al., 2015) other studies have taken the opposite position (Hoecht, 2006; Cole and Matsumiya, 2007; Marcy, 2014). This section investigates the general quality procedures that are commonly used in higher education programmes and how the universities apply these to enhance MOOCs. The first subsection presents the findings related to internal procedures of quality assurance on MOOCs at the five universities. The second subsection presents the findings related to the external review of MOOCs, including the review by the providers of the MOOC platforms.

#### **5.1.1 The Internal Procedures**

The five universities indicated that while they use rigorous procedures of quality assurance for their conventional programmes, they do not use similar procedures for MOOCs. The universities provide MOOCs according to the guidance and criteria of MOOC's platforms rather than the approval procedures used in conventional courses. The universities see MOOCs as a new system that has a different style to that which they are used to, and thus

they find it difficult to apply the same quality assurance procedures that they use for their conventional courses to MOOCs. Therefore, the general procedures for the quality assurance of MOOCs are still limited, and vary from one university to another, largely being guided by the criteria in the platforms themselves.

However, MOOCs pass through some steps that are already used in conventional academic courses in some universities, such as defining learning outcomes of courses, but the universities indicated that these steps do not follow the same procedures used in their conventional courses. In this respect, University E stressed that the FutureLearn and Coursera instructions are used only to ensure the minimum quality requirements. The university, therefore, sends its courses to its central MOOC team to get *“any feedback”* (EP31) that might improve them. Also, University A does not use specific procedures or criteria but *“it depends on the motivation on the individual person, and the motivation of the university”* (AP4). Also, although the central MOOCs’ team is responsible for checking the quality of MOOCs, the quality assurance procedures at University C indicated are only general and simple procedures (such as checking the text, subtitles and videos). The university also seeks to improve the quality assurance of MOOCs through other forms of support, such as employing PhD students *“to moderate the course and provide advice to those learners”* (CP15).

In contrast, both Universities B and D believe that the quality of MOOCs, and the improvement of these courses, is basically not their job, but rather the platforms’ responsibility. University B uses the FutureLearn form *“which just checks that they have ticked all the boxes”* (BP9). However, the other quality procedures that the university adopts is inviting *“someone who has not been involved in the course”* (BP12), depending on their personal experiences. University D does not regard quality assurance of MOOCs as a formal part of its responsibility, but *“ethically”* (DP20) it should be considered as part of course preparation. Also, there is no quality guidance that addresses the academic requirements, and that is why the quality assurance procedures for MOOCs are still *“not rigorous enough”* (DP24).

One of the critical processes that should enhance the internal quality is the feedback from learners. At the majority of the universities, the feedback on MOOCs is generally positive. In

addition to this general feedback that learners provide, however, University E uses “*feedback surveys*” (EP27) to collect data and investigate specific concerns that have been raised and may need to be improved.

Overall, therefore, while the universities use the platforms’ guidance to enhance the quality of MOOCs, they indicated that these procedures on their own are insufficient. They therefore supplement the platforms’ procedures with their own procedures.

### 5.1.3 External Review

The platforms of MOOCs review the courses that the universities submit to them to make sure that the courses are produced according to their criteria. Therefore, the universities need to respond to the FutureLearn criteria (as well as the Coursera criteria for the courses that University E provides), and these criteria of platform should ensure at least the minimum quality requirements for MOOCs.

The platforms’ review process is described as “*quality review*” (AP2) and it is “*quite useful*” (EP27) in terms of enhancing the quality assurance of MOOCs. Some of the universities, however, indicate that the platforms’ reviews seem to represent the aims of platforms on MOOCs rather than the higher education approaches, such as the focus on videos that can help to support the reputation of platforms itself. In this context, University C criticises FutureLearn’s focus on the quality of images, video and subtitles, as these are not the same as the kind of academic review that is commonly used in higher education. These areas help FutureLearn to enhance the “*brand*” (CP17) of the platform rather than necessarily the process of learning through MOOCs. University D also criticises the extensive focus of FutureLearn on social rather than academic areas, and blurred the “*kind of education level they are going to have*” (DP23).

Furthermore, the other two universities (A and B) do not rely only on the FutureLearn reviews, but they use additional ways to enhance the external review of MOOCs, even if these are still limited. University B uses a “*peer assessment*” that is presented by other learners who provide feedback before submitting the courses to FutureLearn. Similarly, University A reviews its courses externally, using people with subject knowledge who are not part of the university.

The approach of both universities (A and B) focuses on the videos in the MOOCs, making sure that their content is of high quality. These external review procedures at both the universities precede the platforms review in order to make sure that the new MOOCs meet the platforms criteria. The other external reviews are therefore considerable depending on the platforms' instructions that are already criticised by most of the universities.

In summary, both the internal quality assurance procedures and the external review applied to MOOCs are derived from the guidance and criteria provided by the MOOCs' platforms. These do not enhance MOOCs enough and do not raise the common level of quality assurance applied to academic courses and programmes in higher education institutions. The external review of MOOCs, for instance, is the platforms' responsibility to ensure that MOOCs are produced according to their criteria. The attempts of some universities to enhance the quality of MOOCs are not based on rigorous criteria but rather serve just to make sure that the platforms' criteria have been applied. The current internal procedures and external reviews, therefore, do not do enough to enhance the quality of MOOCs.

## **5.2 Innovation in Universities**

This section presents findings addressing research sub-questions 2 and 3:

*How is quality assurance of innovation different across institutions according to the attributes of the institution such as size, age, platform and the regulatory environment?*

*How do quality assurance practices on MOOCs relate to the process and characteristics of innovation in higher education institutions?*

The first subsection presents the findings related to the purposes and benefits of MOOCs at the universities. The second subsection addresses the strategy in respect to MOOCs at the universities and the regulatory environment, and the third subsection addresses the quality process of MOOCs at the universities.

### 5.2.1 Purposes and Rationales for MOOCs

This subsection addresses the purposes of MOOCs in terms of the market and reputation of universities, and for academic support.

#### Market and Reputation Purposes

There is a widespread consensus among universities that MOOCs can promote their market and reputation, with Table 5-1 showing the expectations of the five universities in terms of how MOOCs can achieve this. The universities believe that MOOCs can help people discover the courses and abilities of universities and thereafter encourage those people to consider enrolling in more conventional programmes. For example, MOOCs are seen as accessible courses and tasters for academic studies (AD1), helping people to know about the conventional academic courses (ED1) at Universities A and E. University C seeks to support its market through inviting “*famous and specialist*” lecturers (CD1) to teach in its MOOCs, and it thinks this can attract more learners. University A expects that MOOCs can be a “*promotional tool*” (AP1) that enables it to demonstrate its expertise and specialism in particular areas, which eventually will support the market. One member of academic staff at University E, however, stressed that there is “*anecdotal evidence that people that have engaged on MOOC programmes have subsequently enrolled into our postgraduate programmes*” (EP32).

Universities	The area of promotion	
	Market	Reputation
A	•	
B	•	•
C	•	•
D	•	
E	•	•

**Table 5- 1: Expected support of MOOCs to market and reputation**

Note:

- Refers to the market and reputation benefits that a university looks for through MOOCs

Furthermore, the universities expect that MOOCs can enhance their reputation in different ways. In this respect, University B mentions that MOOCs involve “reputational risk,” and that the quality assurance of MOOCs is about “*managing that risk*” (BP13). University E is one of oldest universities in the study with a strong reputation, and it aims to “*maintain a reputation of being outward facing*” by producing MOOCs across a wide range of areas, indicating MOOCs “*help your reputation if you do it well*” (EP31). The expectation of the universities, therefore, is that MOOCs can enhance their position in the market through a variety of approaches, such as attracting new students by promoting their conventional programmes. MOOCs also can improve the reputation of universities because they show the academic capabilities of universities to attract a large audience. These expected benefits seem to drive universities towards the improvement of quality assurance of MOOCs.

### MOOCs for academic purposes

The majority of universities expect that MOOCs can enhance their conventional programmes from different angles. Table 5-2 shows the expected areas of academic benefit from MOOCs according to each university.

Universities	The area of promotion				
	Research	Academic staff skills development	Quality of the learning experience	eLearning	Society
A		•			
B	•		•	•	
C	•		•		•
D			•	•	•
E		•		•	

**Table 5- 2: Expected academic benefits of MOOCs for each university**

Note:

- Refers to the expectations that a university looks for through MOOCs

Universities B, C and D expect that MOOCs can enhance the quality of the learning experience because these courses help to keep up with new styles of learning and “*generate more understanding*” (BP10) of learners’ needs. University B also expects that MOOCs can be a part of its strategic plan in relation to developing conventional teaching and learning programmes. MOOCs can also help to develop the skills of academic staff at Universities A and E because these courses “*expose staff to different ways of doing things rather than how they always work*” (AP2), and provide a chance to learn lessons that may be applied in the university educational portfolio (ED1). In addition, some universities expect that MOOCs can offer other benefits, such as exploring new pedagogical approaches to learning at University

D and aspirations to explore whether MOOCs can be used to disseminate research and create research impact at University C. Developing online delivery methods and eLearning at University B, D and E are other benefits that universities expect MOOCs can offer. The universities, however, do not offer evidence for how MOOCs can provide these academic experiences, but rather only aspirations to exploit new technologies. The universities therefore expect that, as new innovations, MOOCs can underpin and support their conventional programmes, even if they diverge in expectations.

As a result, the benefits that MOOCs are expected to provide universities are not only related to the position of those universities in their market, and their academic reputation, but also to conventional programmes and staff experiences. For example, MOOCs can help to develop the skills of academic staff at universities, such as in teaching and learning, and improve the quality of the learning experience. These benefits seem to be a key element, encouraging the universities to enhance the quality of MOOCs.

### 5.2.2 The Attributes, Regulatory Environment, and the Strategy of MOOCs

This subsection addresses: Firstly, how the quality assurance of MOOCs is different, depending on the various attributes of universities. Secondly, the influence of the regulatory environment on the strategy of MOOCs in relation to the development of quality assurance at the five universities.

#### The Attributes of Universities

The findings show that the MOOC platforms work with universities according to their attributes. That is, the attributes of universities have a critical role in the development of MOOCs. In this context, the literature indicates that the institutional age underpins organisational reputation and the implementation of quality management (Csizmadia, 2006; Laegreid et al., 2011; Suomi et al., 2013). The literature also indicates the impact of organisational culture on quality management, including the effect of the size of the institution (Boger and Lyons, 1985; Bogue, 1998). Boger and Lyons (1985:12) state, “If a system is large and complex, it will take more effort to determine that the system accomplishes its intended functions.” Existing research, therefore, highlights the need to understand the role of these attributes in the assessment of the relationship between quality assurance and innovation in different environments (i.e. Seeber et al., 2015; Laegreid et al., 2011). This subsection will



therefore discuss the impact of these attributes on the relationship between quality assurance and innovation in the five universities.

Age was one of the reasons that encouraged the MOOC platforms to work with old universities (C and D) and older university (E). At the same time, the universities recognise that MOOC platforms target them since they are “*prestigious, generally older universities*” (AP1). However, these universities adopt MOOCs regardless of their age or reputation because they seek to enhance their position as leading institutions that respond to technologies and do not rely only on conventional programmes as “*there is a recognition that you cannot sit on your laurels, you have to be constantly doing new things*” (CP16). The universities do not recognise their age as a relevant attribute in terms of enhancing the quality of their programmes and the staff at universities are “*not so sure that the age of the university enhances the quality of MOOCs* (EP28). They seek to keep abreast of the new developments in higher education (MOOCs) rather than just relying on their historical reputation. For Universities A and B (younger and young respectively), they do not consider the age of the university as an indicator in terms of their ability to develop technologies, and this is why they adopted MOOCs to compete alongside the old universities.

Nevertheless, different procedures at the universities may signify the role of age in MOOCs’ quality assurance. For example, the two old and older universities (D and E) seek to enhance the quality of MOOCs by rigorous “internal procedures”, while the young university (B) uses simple internal procedures that derive from the platform guidance. However, University C is an old university and it does not use rigorous procedures but employs similar methods to those used at University B, indicating that “*You are not just saying right, this is degree level, so people have to know that, we have to pitch it for a large audience, so we have to just be very general*” (CP14). Furthermore, the old universities rely on only “the external review” provided by the platforms, while both younger and young universities (A and B) use further external procedures (peer review) to enhance the quality of their courses. All the universities agree that quality assurance is still limited and there is no evidence that the age of the university is a factor that correlates with the quality assurance of MOOCs at these universities.

Furthermore, the chapter on Within Case Analysis does not indicate that the size of the university is related to the quality of MOOCs. Although Universities A, B, C and D are

different in size, they all produce a similar number of MOOCs (between 5-6) based on the same criteria (the FutureLearn criteria). University E is medium sized and smaller than University C, but it produces a higher number of courses (up to 40 courses) based on the platforms' criteria. MOOCs are managed through different committees at the universities (e.g. the academic team at Universities A and B, curriculum team at university C, the advisory board at University D, and group strategy at University E). For example, University D stated that MOOCs *"have a review with an advisory board of our very senior academics"* (DP20), and the academics' committee at University A works *"together and brainstormed what would the topics be"* (AP1). The committee structures and operation may reflect some differences of size, particularly for University E. However, the different sizes do not lead to big differences of quality assurance procedures at the majority of universities. Therefore, the size of the universities is not related to the quality assurance of MOOCs.

#### The Regulatory Environment and the Strategy

The chapter on Within Case Analysis shows that universities are serviced by the MOOC platforms regardless of their regulatory environments. Although the higher education systems have different models of funding and different pressures to recruit students, the universities are serviced by the MOOC platforms, regardless of their academic system. Also, the process of designing the MOOCs is not derived from the higher education systems. Whichever system is applied to the university, the creation of a new MOOCs can depend on the universities financial policy, rather than the higher education systems. For example, University D provides limited financial support for creating MOOCs, unlike University E, that provides enough funding to form new MOOCs. This financial policy seems to be for only creating MOOCs rather than developing them. Therefore, there is no evidence that the higher education systems have a critical role in the relationship between quality assurance and MOOCs.

Furthermore, Universities A and B do not have clear procedures on how they structure and organise MOOCs, and also they do not have a clear strategy on MOOCs or whether MOOCs can be improved. Staff at University A misunderstand how they organise these innovations because they are *"just seen as something which was innovative, new and interesting, and something which it would be good for the university to be involved with, and to see how things pan out"* (AP1). University B is still sceptical about whether MOOCs can be further developed or whether they will be just the same in the future, questioning *"what the overall outcome of*

*the programme would be, what the sequence of topics would be ...*” (BP8). University B also aims to improve its understanding of MOOCs and how they can be structured and organised to harmonise with the conventional courses. There is therefore no clear strategy in respect of MOOCs at either of these universities (A and B).

In contrast, both Universities C and D take into consideration the need to develop a strategy in respect of MOOCs, even if they are moving in different directions. For example, University C aims to develop MOOCs through an astute plan to structure and organise these courses. The university, in this regard, indicated that it wants to have *“a very clear structure around MOOCs”*, and it does not want to produce these courses *“without any coordination or thought”* (CP14). University D, meanwhile, seeks to develop the teaching and learning of MOOCs, which can also lead to developments in academic teaching and learning. Even though these strategies may have limited scope, the environment of these universities is likely to be appropriate for the development of MOOCs. That is, these universities (C and D) focus on how MOOCs can be effective in the future, despite the fact that they are aware of the challenges involved in the development of MOOCs (e.g. limited funds, culture challenges, etc.).

For University E, the environment seems to be more favourable than others to the development of MOOCs. For example, the organisation of MOOCs by the strategy group, the continued development of MOOCs, and the plans to offer MOOCs on a regular basis are all a clear indicator of the strategy. *“People who sit on that strategy group are high, assistant principals and vice-principals of the university who own strategies .... etc.”* (EP29). The procedures of the strategy group can therefore illustrate that the environment of the university is responsive to the development of MOOCs.

### 5.2.3 MOOCs Quality Process

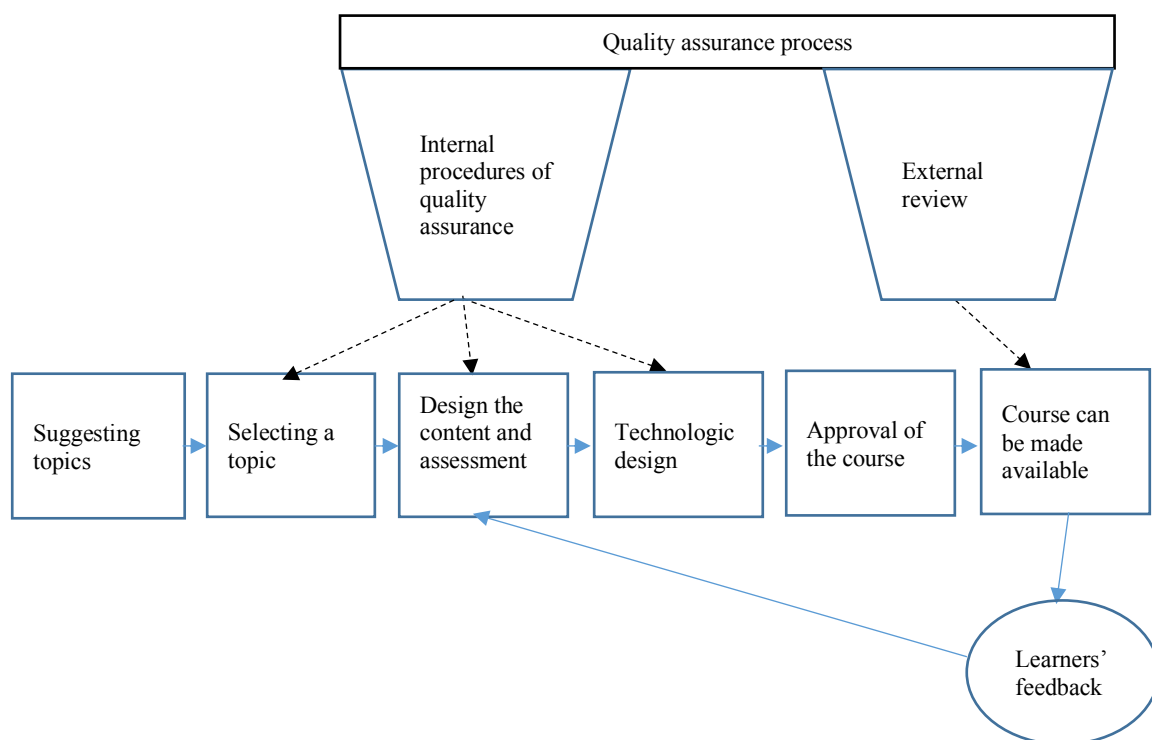
This subsection addresses the quality assurance process of MOOCs, including the approval process that MOOCs pass through. The content, learning and assessment of MOOCs are also addressed in this subsection, as they are a key concern of universities with respect to both MOOCs and conventional learning programmes. The main characteristics of MOOCs that the study focuses on have been collated from literature and confirmed by the universities documents and interviewed staff in Chapter 4, such as diversity of learners, the level and

background of learners, the time of courses, the features of videos and audios, subtitles, etc. have all been included.

### Approval Process

The approval process for MOOCs at the universities is not equivalent to the approval process for the conventional courses. For example, the approval process for conventional programmes considers the requirements of quality assurance (e.g. breadth and depth of subject content, engaging students in monitoring and influencing the curriculum ...etc.) and it aligns with both the indicators of QAA and the strategy of university. The universities describe their process of conventional courses as a rigorous process that relies on appropriateness of standards for the level and title of the degree. The process for conventional courses may differ from one university to another, however, in the requirements and steps used to design each course.

In contrast, the Within Case Analysis chapter shows that the five universities use similar main steps in the MOOCs' approval process, which seem to be derived from the platforms' guidance. These steps start by choosing the main topic around which to create the courses, followed by designing the content and assessment, the technological design step, and finally the approval of the courses. These steps can be interspersed by some internal quality assurance procedures (section 1 of chapter 5). Based on data analysis for ongoing quality assurance at the five universities, Figure 5-1 shows the consensus of the universities regarding the main steps in the MOOCs design process.



**Figure 5- 1: A conceptual diagram of the main steps in the MOOCs' design process at the five universities, based on interpretation of the data presented in Chapter 4**

The majority of universities, however, indicated that the approval process for MOOCs is *'lighter'* than the process for conventional courses, which is described as a *'rigorous'* process. In University A, the reason that MOOCs do not need to have a rigorous approval processes is that the university does not *"make any money out of it"*. Also, respondents found the current approach of quality assurance used for conventional process *"too heavy-handed"* (AP7) for MOOCs. Similarly, University B uses *"a lightweight programme approval form"* (BP13) because, if the process goes through more stages and more phases, then it *"potentially would put off people"* (BP8) designing MOOCs. A *"very rigorous programme approval process"* is used for conventional courses at University C, because the university takes into consideration its market position and *"what resources students need"*, while the approval process of MOOCs is *"a lot faster"* and relies on *"a different kind of criteria"* (CP14), because the learners of MOOCs are not the real students of university.

In contrast, Universities D and E have contradictory views on the approval process for MOOCs. On the one hand, the universities indicated that they use “*exactly the same*” (DP22; EP27) approval process for MOOCs as conventional programmes. This is because MOOCs share common considerations such as “*accessibility and usability as well as academic rigour*” (EP27), even if they should be looked at through a digital lens. On the other hand, documents from University E indicated different thinking on the features of the approval process for MOOCs, indicating that although all MOOCs are reviewed through university course validation channels, the processes of quality assurance are still ‘lighter’ than the quality process for conventional courses (ED1). University D also indicated that there is a big difference between the process for MOOCs, which are more orientated to the general public, than the conventional process, which is more relevant to credit-bearing courses, so the process for MOOCs is affected by their aims. There are, therefore, contradictory views on the rigour of the approval process for MOOCs at Universities D and E.

#### The Content and Characteristics of MOOCs

There is consensus that the content is a critical step in designing courses, although it seems to be influenced by the characteristics of MOOCs. The universities use different procedures to design the content, seeking to develop the quality of MOOCs through their content. For example, the content of MOOCs at University E is proposed by academic staff. The strategy group then reviews these proposals. This “strategy group” is qualified to test and choose content relevant and appropriate to MOOCs. The characteristics of MOOCs, however (e.g. the diversity of learners, the level of their background, the short duration of courses ...etc.) force universities to adopt a more general approach to that which they use for more mainstream courses. That is “*MOOCs are very much for the general public*” (EP27) and the audience “*is very different, and the messages have to be much shorter, the way that you deliver content has to be shorter ...*” (EP29).

Similarly, at both Universities A and D, designing the content of courses is subject to procedures that can improve the quality of MOOCs, although they use different methods than University E. For instance, one of the critical procedures that is used to improve the quality of MOOCs at University D is inviting “*student teams and student representative officers*” (DP20) to work with the team developing the curriculum to evaluate the content of MOOCs.

This involvement allows the university to get early feedback on the content and then improve it, even if that content is restricted by the characteristics of MOOCs (i.e. light content). University D, therefore, follows some procedures that reduce the gap between MOOCs and conventional course content design. Furthermore, when the academic staff of one department at University A design the content, they send it to other academic staff who work in another department to review the quality of that content. *“The content of the MOOC was looked at by other colleagues, not in our department, elsewhere, to say OK”* (AP3). Since the staff of the other department are usually not specialist in that content, however, it means that they can only improve the quality of the content in a general way rather than through specific knowledge. University A, therefore, also responds to the characteristics of MOOCs when developing the content.

In contrast, the procedures on the development of the content in both Universities B and C depend only on the criteria set out by the MOOCs’ platforms. University B believes that learners of MOOCs do not need any previous knowledge or expertise, but rather ‘a general knowledge’ (BD4). Also, during the redesigning of courses, may *“remove some difficult bits and add in some easier sections”* (BP9), which are a feature of MOOCs at University B. Similarly, University C looks to develop the content only through the MOOCs’ team, because the current courses are *“quite simple”* (CP17), and there is no evidence that they use specific criteria or procedures. Although Universities B and C do not use specific procedures to develop the content, the emphasis on simple knowledge indicates the impact of MOOCs’ characteristics on the development of quality of content.

The content of MOOCs is therefore in general designed for learners who are not the universities’ students and without current academic level restrictions. The criteria set out by the platforms forces universities to design light content in their MOOCs based on the purposes and the benefits of these courses. The light content represents one of the critical characteristics that restrict the development of quality assurance of MOOCs at the majority of universities.

### Learning and Assessment

Learning and assessment are a key concern in MOOCs and there is a need to develop these aspects in the majority of universities. In this respect, University B seems to focus on the characteristics and facilities of learning that may encourage learners to join MOOCs. Such

as the fact that the courses need only a limited amount of time daily; learners can give up their courses at any point and whenever they want, even if the course has not already begun, and people can register for courses even if they do not have any background knowledge of the courses. However, some staff of University B indicated that there is still a need to articulate “*what the overall outcome of the programme would be*” (BP8), and therefore, there is ambiguity about the learning outcomes of MOOCs and how outcomes of these courses can be assessed. The assessment is also affected by the characteristics of MOOCs in relation to the level and background of learners, because the university offers exams (quizzes) in “*three attempts*” (BP13).

Learning outcomes of MOOCs are not well defined at University D because the university does not know “*what sort of interests*” and “*what kind of education level*” (DP23) the platform is going to have. This lack of clarity is also reflected on the quality of assessment of MOOCs, even if the university seeks to explore “*different ideas in terms of assessment*” (DP23). This also means that there is a lack of shared understanding of the purpose of MOOCs between the university and the MOOCs’ platform. Respondents from University D also indicated “*a lack of criteria*” of assessment and that the university should design the assessment that should work in “*the MOOC environment*” (DP23). In addition, University A seeks to design inclusive processes for “*specific learning outcomes for each part*” (AP5), although there is no clear evidence on the quality of learning outcomes. The university stressed, however, that the assessment of courses consists of “*fairly soft quizzes*” (AP5).

There are contradictory views on the quality of learning and assessment at University E, however. On the one hand, documents indicate that the staff apply different styles of learning to enhance the quality of learning and assessment in a similar way to those used in conventional courses. On the other hand, the participants of the university indicate that learners of MOOCs are not as engaged as other learners who have face-to-face lectures. That is, learners are more interested in conventional academic lectures than other styles of learning. The university maintains that the performance of lectures in front of the camera uses a different style that cannot sustain the same quality as traditional lectures, and “*it is quite different from lecturing in front of an audience*” (EP31). Also, University E stresses that assessment is “*the area that needs a little bit more thought*” (EP27). The MOOCs’ process



related to learning and assessment, therefore, seems to face similar challenges in terms of content for the majority of universities.

In summary, some investigated attributes may not have a critical role in the enhancement of the quality of MOOCs, such as the age and size of universities, as well as higher education systems. For example, MOOCs are subject to different levels of financial support, but this depends on the policy of the universities (e.g. Universities D and E) rather than the higher education systems in the UK. However, in some universities such as University E, environment is seen as responsive to the development of MOOCs. The approval process for MOOCs seems to be derived from the platforms' guidance, and it is still light and not equivalent to the approval process for conventional courses. Finally, the characteristics of MOOCs seem to have a critical influence on their quality assurance. This influence of the characteristics is linked with the content, learning and assessment outcomes at all universities.

### **5.3 The Culture of Universities**

This section presents findings addressing research sub-question 4 and 5:

*How does the quality of MOOCs develop through the cultural norms of higher education institutions?*

*To what extent do MOOCs need a new model or new criteria of quality assurance to be applied with regard to their learning and assessment processes?*

The first subsection presents findings related to the culture of universities. The second subsection addresses the relationship between the culture of the universities and quality assurance. The third subsection addresses the approaches to the quality assurance of MOOCs.

#### **5.3.1 The Culture of Universities and Innovation**

Literature identified variables and concepts in organisational culture, such as values, shared philosophies, ideologies, beliefs, expectations, attitudes and norms, which have all been shown

to potentially affect the implementation of new programmes (Bright and Coope, 1993; Lund, 2003; Irani et al., 2004). The culture of academic institutions, in general, cannot be ignored or excluded in the implementation of critical programmes (Clark, 1998).

Despite the fact that the five universities differ in their characteristics, such as age, size, objectives and orientations, the dominant culture of most universities is centred around the production of conventional academic programmes. In this respect, there is a broad consensus between the universities on the preference for face-to-face teaching and learning, and the focus on research. Table 5-3 illustrates the findings related to the dominant culture and innovation in general at the five universities.

Areas of finding	Indicators	Case A	Case B	Case C	Case D	Case E
Flexibility of culture	Traditional academic culture	High	Moderate-High	High	High	Moderate-High
	Innovation culture	Low-Moderate	Moderate	Low	Low	High
	MOOCs Acceptance	Low-Moderate	Moderate	Low	Low-Moderate	Moderate

**Table 5- 3: The flexibility of culture at the five universities <sup>(2)</sup>**

Some universities, however, tend to adopt new innovative programmes and they seem to have a conviction that they should respond to the development of technologies in higher education. Such technologies vary considerably and may not always fit with the traditional culture of these universities. Table 5-4 shows summary of the universities views on innovation in general.

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(2) The scale that is used in this study include mainly four levels, which are High, Moderate, Low, and Unclear. More details in section 3.5.3 cross case analysis, page 75.

Universities	Summary of universities views	Orientation of innovation
E	The university seeks to innovate in different ways, and the university staff mostly support new technologies.	General <i>positive</i> orientation
B	Many university staff are very innovative and intend to increase the use of technologies.	Specific <i>positive</i> orientation
A	Technological innovation can lead to high risk and threat to the conventional programmes.	Specific <i>negative</i> orientation
D	People do not understand the role of technologies, and there is a challenge to change the culture of the university	General <i>negative</i> orientation
C	The university schools are apprehensive of using more technology because they prefer to keep their conventional learning and teaching.	General <i>negative</i> orientation

**Table 5- 4: Summary of views on innovation at the five universities**

According to the Table 5-4, the majority of universities articulate innovation in a general sense (orientation) and only two universities have a clear positive view on innovation, while the other universities have a negative view on innovation. Universities E and B seek to increase the use of online programmes, although flexibility in the traditional culture at these universities is categorised as moderate - high. For instance, University E provides over 65 online learning courses alongside the conventional courses at the university. However, not all people have positive views on MOOCs development, or at least they do not understand why

MOOCs are adopted, and how they can align with the conventional courses. While there are *“a lot of people who were keen to get involved in it [MOOC](EP27) other people are “pushing in different ways” (EP29).* Although there is a positive orientation in respect to MOOCs, therefore, it is only towards public learners but not conventional students at the university.

Also, University B aims to have a moderate approach to the potential new technological developments in higher education, indicating that: *“If there is a scale between being very willing and keen to take up new technologies [...] we are in the middle” (BP10).* Developing a new MOOC, however, is still a challenge for the MOOCs’ staff and it is *“a bit of a battle there trying to explain and justify why you want to be doing MOOCs” (BP8).* Therefore, these two universities tend to adopt new innovative programmes and seem to have a clear conviction that they should respond to the development of technologies in higher education.

University A has contradictory views on adopting and developing innovative programmes in general, and that is why innovative culture is described as low-moderate in the scale of this study (Table 5-3). On the one hand, the staff of University A stated that the university is quite slow to adopt new technological innovation, and it is *“not at the forefront of adopting new technologies”,* because the university staff are *“quite risk averse and cautious in that way” (AP2).* Also, MOOCs are perceived as just *“an expensive hobby” (AP4)* and people do not have much awareness of the role of these new technologies. On the other hand, the commitments of the university in respect to developing ‘*independent learning*’ reflect values and a philosophy that can contribute to adopting technologies and keeping abreast of new developments in higher education alongside other competitive universities.

In contrast, there is a less flexible culture towards technological innovation at Universities C and D (both are categorised as low on the scale of this study, Table 5-3). These two universities do not encourage adopting new learning technologies much, due to concern and mistrust of the potential impact of these technologies on conventional programmes. Although people at University D are described as *“very receptive to new technologies” (DP20),* there is misunderstanding about the purpose of technologies and the role that they can play. That is why the use of technologies seems to be focusing on general outcomes such as saving time rather than *“pedagogical advantages” (DP21).* In tandem with this, one of the critical cultural challenges at University C is that the proponents of MOOCs are still limited in number,

namely only the MOOCs team. If MOOCs do not provide profit to the university, then the university “*questions*” whether or not it needs them. This is the reason why the university staff believe “*there is a cultural problem*” (CP18) at this university.

### 5.3.2 The Culture of Universities and Quality Assurance

Previous studies indicate that organisational culture has a crucial impact on the implementation of new practices and affects the execution of quality management (Mauil et al., 2001; Cole and Matsumiya, 2007; Wagner et al., 2014). Also, quality assurance cannot succeed unless it is supported by an institutional culture due to the role of culture in ensuring the competence in the implementation of quality assurance (Campbell and Rozsnyai, 2002). This subsection will therefore explore whether the quality assurance process for MOOCs can be affected by the culture of institutions.

There are divergent views on the development of the quality assurance of MOOCs at the five universities. Table 5-5 shows a summary of universities' views on the possibilities of enhancing the quality assurance of MOOCs from a broader perspective. University E looks to MOOCs as “*pure individual academics can see the benefits of becoming involved in MOOCs in that it is a very very excellent profile*” and these courses are seen “*in a positive light*” (EP28). The university targets learners who are from abroad, however, rather than the university's students, indicating that the learning outcomes are at a level intended “*very much for the general public*” (EP27). Similarly, University B seems to be accommodating with respect to the enhancement of MOOCs. One of the main reasons for this view is its wide use of technological innovation, in particular, online and distance learning. Also, MOOCs are described as a “*fashion*” because academic staff of the university “*saw other people doing it and they were persuaded that this was something that they should put their toe in the water*” (BP11), which shows that the ideologies within the university push it towards competing on new programmes. The university stressed, however, that learners that join MOOCs do not need to have previous knowledge, and the information in lectures should facilitate learners' preferences, for example with short videos. The university staff, in contrast, indicated that “*we have a duty to our students of course through ensuring what we provide them with is a high quality and meets all of the benchmarks*” (BP8) while they “*deliberately*” keep the quality assurance of MOOCs relatively light-touch.

Universities	Examples of MOOCs' features	Quality gaps
A	It is difficult to know the real value of MOOCs, and these courses do not need to have a rigorous process.	Learning outcomes, and light procedures
B	MOOCs do not need to have previous knowledge, and students like to watch only short videos as lectures.	Quality requirements, duration of learning, and learning outcomes
C	MOOCs are much less controlled and they need a less formal approach. The university does not accommodate the needs of MOOCs' learners in the same way that it does to those on its conventional courses.	Learning outcomes, and content
D	MOOCs are not rigorous enough and the university is under no legal obligation regarding quality assurance. The quality procedures depend on what the current MOOCs' aims are.	Quality requirements, and MOOCs aims.
E	MOOCs are relevant to the general public and they offer only short courses. The approval process of quality assurance is lighter than conventional process.	Learners outcomes, duration of learning, quality process

**Table 5- 5: The gaps of quality of MOOCs in the culture of the five universities**

The other universities are not very confident that MOOCs are the best technological choice. For example, while University A seeks to provide a wide range of “*independent learning*” (AP2), it is “*difficult to know what the real value*” (AP1) of MOOCs is, and that is why the university indicated that these courses do not need to have a rigorous process. Similarly, University D seeks to enhance its advantage as a leading university by enhancing the quality of technologies, but the staff at the university still misunderstand MOOCs in general, and thus it is difficult for them to engage in programmes when they are “*not quite sure what the premise is really*” (DP23). Additionally, they point out that the university is under no legal obligation for the enhancement of quality assurance for MOOCs.

The most sceptical view of enhancing MOOCs seems to be at University C, which does not

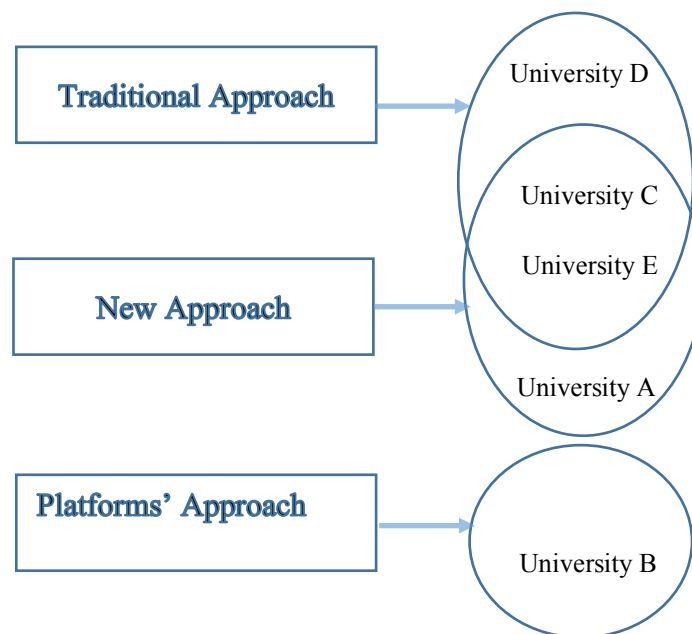
seem confident that MOOCs are relevant to academic development. The university looks at MOOCs as much less academically oriented and believes they should “*pitch*” MOOCs to a large audience, and therefore, MOOCs must be “*very general*” (CP14), which restricts the enhancement of quality assurance. Also, the schools of the university “*do not want to stay away from their traditional way of learning and teaching*” (CP18), and they do not accommodate the need of MOOCs’ learners in the same way that they would to conventional courses. There are therefore several challenges that may restrict the enhancement of quality assurance for MOOCs at the universities. These challenges related to different academic areas, such as the duration of learning, content, learning and teaching, assessment, design process, and the learners that MOOCs target.

In summary, flexibility of culture, with respect to the adoption of new and innovative programmes, can be seen at only some universities, specifically, Universities B and E. A less flexible culture towards MOOCs is seen at University C, which constitutes a big challenge to the development of MOOCs. The reason behind the limited flexibility in the culture in respect to MOOCs is that there is a high consensus between the universities on the preference for face-to-face teaching and learning, and the focus on research. Also, the possibilities of enhancing the quality assurance of MOOCs is a further challenge at the majority of universities. That is, the universities indicated several gaps related to the features of MOOCs (compared with the traditional courses that these universities provide), such as learning outcomes, aims, and quality requirements in general.

### 5.3.3 Quality Assurance Approaches

Studies on higher education argue that there is no ideal model or system of quality assurance that can be relevant to all academic programmes (McLaren, 2010). In practice, the majority of universities (except University B) stated that the platform approaches are not sufficient to provide the quality assurance of MOOCs. Also, it is clearly shown that the universities seek to improve the quality of MOOCs, but they are not convinced of the adequacy of their current procedures. However, the universities have not adopted a relevant strategy regarding this yet, but rather the universities recognise different approaches to the enhancement of quality of MOOCs. Therefore, there are three different views in the five universities on the quality

assurance approaches that should be adopted to improve the quality of MOOCs: the traditional approach to quality assurance that is commonly used for conventional courses; a new approach to quality assurance designed specifically for MOOCs; and the quality assurance approach indicated by MOOCs' platforms. These three approaches differ in processes and procedures, and the preference of universities on the use of these approaches depends not only on the procedures they entail, but also on the objectives and purposes of MOOCs at the universities. Figure 5-2 illustrates these three approaches and how the universities look at them.



**Figure 5- 2: The approaches of quality assurance of MOOCs that universities look to apply**

The first approach (the usual procedures for quality assurance that are commonly applied in higher education) seems to be the option that University D intends to implement. This university believes MOOCs are like other academic programmes and should be subject to the same quality assurance criteria as are applied to all their academic courses. The university expects MOOCs to include the same requirements as for courses that are provided in the classroom. *“If in a classroom you are assessing, you know, how good your content is in terms*



*of engagement level, in terms of accessibility, in terms of, student interaction, you can do exactly the same things on a MOOC, but you just have to think of it through that digital lens”* (DP22). MOOCs should therefore pass through the same common quality assurance approach as for academic courses, such as designing content, engagement, accessibility, and student interaction. There is only one area that the university believes should be developed in terms of quality assurance, however; namely that MOOCs should be viewed from a digital lens rather than from the perspective of conventional learning.

The second option is to develop a new approach that can be used specifically with MOOCs. In this context, University A believes that neither the platforms-based quality procedures nor the current approach to quality assurance in UK higher education are appropriate to MOOCs unless they are modified. Even if the requirements are the same (e.g. preparing content, teaching, making assessment...etc.), MOOCs have a different process and need less stringent requirements, while the current procedures for quality assurance in higher education are “*too heavy-handed*” (AP7). In tandem with this, the current quality procedures in the MOOC platforms are not enough to develop MOOCs, despite the fact that University A still provides its courses according to these procedures. The best way to enhance the quality of MOOCs in their view, therefore, is to design new criteria that can take into consideration the characteristics of MOOCs directly. This new approach seems to help in the achievement of different objectives, including the academic purposes that MOOCs can offer.

Thirdly, the platforms-based quality assurance procedures seem to be the only approach that University B uses to develop the quality of MOOCs. The university believes that the staff of FutureLearn have the knowledge of what criteria need to be met for MOOCs to be accepted as appropriate courses for both learners and the higher education institutions that provide these courses. The university is convinced that the FutureLearn criteria are enough and cover several areas that MOOCs need, such as the features of content, the time of the course, the learning requirements, etc. However, the university recognises that the quality assurance requirements for the academic courses that it offers are much more rigorous than those for the MOOCs. The university, therefore, aims to apply only the platforms’ criteria. MOOCs, therefore, only needs to clear the current process rather than others, which can be beneficial to achieving its market objectives.

Both Universities C and E agree that the current approach to quality assurance that is commonly used in higher education can be relevant to MOOCs if that approach is modified. For University C, even if MOOCs have academic features, these are not completely the same as the academic features in conventional higher education programmes. To maintain MOOCs as academic programmes, therefore, these courses should be subject to one system of quality assurance, and that is why a convergence between the current quality approach in higher education and the specific needs of MOOCs is required. In tandem with this, the evidence from University E on the need for convergence in these approaches is that, on the one hand, MOOCs are similar to the development of online distance learning (e.g. in terms of their processes) and the university already offers many such courses that are subject to the conventional quality assurance approaches. On the other hand, the features of MOOCs cannot be ignored, and thus there needs to be a focus on assuring their accessibility and usability, as well as their academic rigour. The best option to develop the quality assurance of MOOCs at both universities C and E, therefore, is a mix of a new approach to quality assurance embedded within the MOOC requirements and conventional quality assurance approaches. This means that the need for a new approach of quality assurance is lingering, but it must take into account the current approach of quality assurance, blending each with the necessary modifications. MOOCs, therefore, should pass through a new process that considers both the current (traditional) approaches, and new approaches that take account of the characteristics of MOOCs.

As a result, the majority of universities (except University B) agree that the current criteria (approach) of the platforms are not enough to enhance the quality of MOOCs. The conventional approach of quality assurance in higher education is still seen as a critical element that should be used to enhance the quality of MOOCs. There is a need, however, to consider the features and characteristics of MOOCs in the quality assurance process. Developing a new quality approach that takes into consideration these features and characteristics as required, and blending the new approach with traditional ones may be more beneficial to the quality of MOOCs.

### **Chapter summary**

This chapter has presented the cross-case analyses for the five cases, considering all research sub-questions. The results investigated in both this chapter and chapter four will be discussed in the next chapter. The central research question and the constituent research sub-question will be examined by drawing upon the outcomes of the case study analysis, revising the conceptual framework based on the results.

## Chapter 6: Discussion

This research aims to contribute to filling gaps in the literature on the relationship between technological innovation and quality assurance. The research also aims to contribute to establishing a clear understanding of how organizational culture influences quality assurance and innovation in higher education environments. It provides evidence to the ongoing debates about the quality assurance of MOOCs and allows higher education institutions to understand the interplay and integration between these new technologies and their conventional programmes. This chapter discusses the empirical findings reported in the previous two chapters, namely the within-case and cross-case analysis, in the context of the literature reviews and the conceptual framework. The chapter returns to the central research question of the study and the constituent sub-questions. The chapter contains five sections aligning with the five sub-research questions.

Section 6.1 responds to sub-question one.

*To what extent does quality assurance obstruct or develop innovation?*

Section 6.2 responds to sub-question two.

*How is quality assurance of innovation different across institutions according to the attributes of the institution such as size, age, platform and the regulatory environment?*

Section 6.3 responds to sub-question three.

*How do quality assurance practices on MOOCs relate to the process and characteristics of innovation in higher education institutions?*

Section 6.4 responds to sub-question four.

*How does the quality of MOOCs develop through the cultural norms of higher education institutions?*

Section 6.5 responds to sub-question five.

*To what extent do MOOCs need a new model or new criteria of quality assurance to be applied with regard to their learning and assessment processes?*

Section 6.6 revisits the initial conceptual framework of this research

## **6.1 Quality Assurance and Innovation**

This section responds to sub-research question one, which is:

*To what extent does quality assurance obstruct or develop innovation?*

The quality assurance literature discusses the influence of quality management on innovation, arguing that quality management cannot be separate from innovation (Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Zeng et al., 2015; Lee, 2015). Some studies have questioned this relationship, however, suggesting that quality assurance may impede innovation (Hoecht, 2006; Cole and Matsumiya, 2007; Kim et al., 2012b). For example, Hoecht (2006) indicates that “the audit-based quality assurance currently operated in the UK does not appear to be suited for fostering learning and innovation”. Moreover, the relationship seems to be more complex with regard to technological innovations that are applied in higher education (Marcy, 2014; Hoecht, 2006). The analysis presented in the within case analysis and cross-case analysis chapters does show that there is some flexibility in how quality assurance is envisaged and applied towards MOOCs, but it also shows many more areas in which the approach to quality assurance hinders MOOCs.

### **6.1.1 Relationship Between Quality Assurance and Innovation**

The analysis chapters describe common quality assurance procedures that the universities use in their courses, including MOOCs, such as the approval process, peer review, and external review. These procedures offer some support for innovation, as the literature suggests (e.g. Mueller and Carter, 2005). For example, the approval process of MOOCs passes through some steps and conditions, including the approval of departments, schools, and vice-

chancellors, which are generally similar to the requirements used in conventional courses. Peer review is used to enhance the quality of MOOCs at the majority of universities (A, B and D).

In general, however, the procedures for quality assurance seem to be applied in different ways for MOOCs than for conventional courses. For example, these procedures for MOOCs seem to originate from the guidance of platforms rather than the processes, indicators and criteria used for other courses. There are, therefore, some quality procedures and support that the platforms offer to MOOCs, but these procedures are limited and do not conform to the methods of quality assurance used in conventional higher education programmes. This is partly consistent with the finding of studies that stress that quality management supports and enhances innovation (Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Zeng et al., 2015; Lee, 2015). However, the findings do not reveal the kind of highly supportive relationship that this literature suggests because it is restricted by the platforms' criteria. Therefore, the convergence between quality assurance and innovation, if any, is still limited and quality assurance is loosely and vaguely applied to MOOCs.

#### 6.1.2 Incompatibility of Quality Assurance with Innovation

According to the findings, the lack of compatibility between quality assurance and innovation is much greater than the limited support from light quality assurance that was identified in the preceding section. In this respect, the universities realise that the criteria applied by the platforms are not enough to ensure adequate quality assurance of MOOCs for several reasons. For example, these criteria focus on education for the general public, and the acceptable level of content in these criteria is lower than that usually accepted in higher education. Also, the interaction of students is very low, and the real value of courses is still unknown. The universities, therefore, seek to enhance the quality of MOOCs by using their own procedures, but these quality assurance procedures are still light and are not based on specific criteria, but rather based on MOOCs' staff judgment.

There are different reasons behind applying limited and lighter procedures for MOOCs. For example, MOOCs are mostly provided to learners regardless of their background or academic level rather than the universities' conventional students, even if some universities encourage some categories of students to use MOOCs, such as in the first years. In tandem with this, the

universities consider the quality assurance procedures applied to conventional courses to be too onerous for MOOCs. These “rigorous” quality assurance procedures meet the needs of the universities’ traditional courses, but they are not suitable for use with MOOCs. The current procedures applied to MOOCs do not therefore meet “the policies and mechanisms” of internal quality assurance, and as a result, do not meet “the standards that apply to higher education in general or to the profession or discipline in particular” (Martin and Stella, 2007: 34). Also, these procedures do not enhance MOOCs in relation to “assessing, monitoring, guaranteeing, maintaining, and improving” to the extent required within the higher education system more generally (Vlasceanu et al., 2007).

Furthermore, the universities rely on external review procedures more than their own procedures, to enhance the quality of MOOCs (e.g. Universities A, B and E). One of the main procedures that the platforms require from the universities to meet the requirements of platforms is ticking all the boxes of the platforms’ form, which is the usual procedure for MOOCs produced at the five universities. These procedures do not focus so much on the conventional quality assurance requirements for higher education programmes that must respond to the market needs, such as the quality of content and assessment, and learning outcomes. Instead, they focus on the quality of images, video and subtitles. Therefore, the external reviews on MOOCs do not enhance the quality of MOOCs in the way that studies indicate. It is good practice in the quality process to include rigorous academic procedures for external reviews (Massy and French, 2001). External reviews must prove that the procedures are sufficient and harmonise with the global market needs (Massaro, 2010).

Innovation requires continual improvement, which, in turn requires clear and rigorous standards. Although the light process is quick and facilitates rapid development and launch, it does not contain the measures of quality that would support the innovation. Thus, the limited internal procedures for quality assurance on MOOCs and the gaps in the external review procedures tend to be consistent with the finding of those studies that state that quality management does not support innovation (Hoecht, 2006; Cole and Matsumiya, 2007; Kim et al., 2012b; Marcy, 2014) rather than those studies that indicate that quality management enhances innovation (Mueller and Carter, 2005; Lopez-Mielgo et al., 2009; Zeng et al., 2015; Lee, 2015).

## 6.2 The Attributes and Regulatory Environment

This section responds to sub-research question two, which is:

*How is quality assurance of innovation different across institutions according to the attributes of the institution such as size, age, platform and the regulatory environment?*

Studies stress that the positive or negative relationship between quality management and innovation can be affected by the attributes and environment of organisations, and the technologies adopted in institutions (Kim et al., 2012b). This section, therefore, highlights the influence of these attributes in the assessment of the relationship between quality assurance and innovation (MOOCs) in different environments (i.e. Seeber et al., 2015; Laegreid et al., 2011).

### 6.2.1 The Age and Size of Universities

The universities' approach to quality assurance does not appear to be related to the reputation or age, although many universities that offer MOOCs are highly reputable institutions. Also, although the age of universities could be an indicator of the university experience and the ability to develop programmes, the universities cannot draw upon this experience because they must use the criteria imposed by platforms instead. Even if the age and reputation of universities affects their quality assurance in general, there is no clear evidence that it is a critical attribute in the quality assurance of MOOCs. Thus, these findings contrast with studies that have argued that the age of institutions is correlated with their quality management (Csizmadia, 2006; Laegreid et al., 2011; Suomi et al., 2013).

Moreover, the analysis reveals that there is no relationship between the size of universities and the level, or approach of the quality assurance of MOOCs. Although the universities were categorised into three levels in terms of size (small, medium and big), based on the number of students, the size is not considered a critical factor in the development of MOOCs. For example, University E is a medium-sized university that uses heavier quality assurance procedures than both the small Universities A and B and the large Universities C and D, all of which are lighter in their approach. Also, there is no evidence that the quality process and procedures governing MOOCs is influenced by the size of the universities. The relationship



between quality assurance and innovation is, therefore, not different in big/small universities and, as a result, the finding of this study does not align with the finding of literature that suggests that the size of universities enhancing the relationship between quality assurance and innovation, and the development of quality of programmes (Boger and Lyons, 1985; Bogue, 1998).

#### 6.2.2 The Platforms and Regulatory Environment

The analysis shows that universities are serviced by the MOOC platforms regardless of their regulatory environments, by which is meant the review of institutions' quality assurance processes and academic standards. Although all UK universities are subject to the QAA Quality Code, institutions in England, Scotland and Wales have been subject to slightly different implementation of the same principles for review and approval, arising from the differences in the regulatory environments between England and the devolved administrations. However, all the five universities rely mainly on the criteria set by the platforms themselves to provide and enhance MOOCs rather than the requirements and instructions of their higher education systems. For example, designing a new course, its content, and checking the quality of the course, are all processes informed by the platforms guidelines. This is regardless of the degree of conformity or disparity with the broader quality assurance systems that the relevant authorities require those universities to follow.

Furthermore, the regulator strategy in respect to MOOCs is often unclear on the future of MOOCs and how they can be effective in the higher education sector. MOOCs are provided because they look like a new academic innovation that the universities should be involved with to keep up with other similar institutions. The formulation of MOOCs' strategy, however, seems to reflect the strategy and priorities of individual universities rather than the policies set by the regulator in the higher education system. That is why universities provide varying numbers of MOOCs with significant differences in the budget for them. For example, University E allocates a high budget to develop and provide several MOOCs in different fields, while the approach of University D is more restrictive in the funding offered to MOOCs. In addition, the best structure and organisation of MOOCs relies on the support within departments and schools rather than the strategy of universities. Therefore, the quality assurance of MOOCs is influenced by universities more than the higher education system.

Based on these results, the role of the regulatory environment at universities in the quality assurance of MOOCs seems to be inconsistent with the expectations raised in other studies. Literature shows the relationship between quality management and innovation can be affected by many factors, including the type of innovation, the culture and environment of organisations (Kim et al., 2012b). Wattie and Andre (2001) stress the impact of the regulatory environment on strategy through internal policy, and show how the complexity of the regulatory environment can constrain the activities of institutions. However, in the case of MOOCs' quality assurance, there is little evidence that the regulatory environment has much effect.

### **6.3 The Process and Characteristics of Innovation**

This section responds to sub-research question three, which is:

*How do quality assurance practices on MOOCs relate to the process and characteristics of innovation in higher education institutions?*

The question above is discussed through two subsections, which are the challenges of the MOOCs' quality assurance process, and the influence of MOOCs' characteristics on the main steps of the MOOCs design, approval, and ongoing quality assurance processes, which include content, learning and assessment. In this respect, the findings of Cole and Matsumiya (2007) stress that enhancing the quality of innovation does not only depend on the criteria of quality management, but also on the features of the innovation.

#### **6.3.1 The Challenges of the Process**

The analysis shows that the quality assurance process of MOOCs (including programme design, programme review, and ongoing quality assurance processes) does not align with the process used in conventional courses and it has, in general, different features than the process used in conventional courses. Accordingly, the main features of the overall MOOCs' quality assurance processes can be illustrated in the following:

- The processes use a different kind of criteria to conventional courses for the stages of reviews, the team managing the courses, etc.
- The process is designed to serve a general audience rather than for academic purposes, and it could also develop the marketing of universities and often targets learners who are not current students of the host universities.
- The process is developed through the MOOCs' team rather than the specialist quality assurance teams that design conventional courses.
- The process can be redesigned and sections removed, even after the courses have been launched.
- The process of MOOCs is fast and responds to the criteria set by the platforms rather than the requirements of usual academic programmes.

Furthermore, although some universities seek to bridge the gap in how quality assurance is handled for MOOCs and conventional courses (Universities D and E), the quality assurance process for MOOCs at other universities is almost non-existent in comparison to what is applied in conventional higher education programmes. In this context, the findings in the literature indicated that it is good practice to ensure rigorous and systematic quality assurance procedures (Massy and French, 2001). Quality assurance can be seen through the “academic rigour” and “hard work” that is largely associated with “academic excellence”, and maintaining academic standards (Akalu, 2016: 267). The current quality assurance processes for MOOCs do not confirm this picture.

### 6.3.2 The Influence of MOOCs' Characteristics

The analysis reveals that the quality assurance of content, learning and assessment are influenced by the characteristics of MOOCs (e.g. the diversity of learners, the level of their background, the short duration of courses, etc.). In this respect, higher education programmes require “breadth and depth of subject content” that need to be negotiated between the higher education institutions and individual students and to be consistent with the context of the mission and strategies of the individual universities (QAA, B1). This did occur in the case of University D, which invites students and student representative officers to work with the team developing the curriculum. This is consistent with the finding of Massy and French (2001) in regard to the need for systematic procedures for obtaining curriculum advice and feedback on education performance from employers, former students, and other external stakeholders. The

platforms criteria, however, force universities to design light content (i.e. short videos and easily read text) in their MOOCs, suitable for learners who are not at university, which causes the universities to question the academic rigour of MOOCs. This light content represents one of the characteristics of MOOCs that can restrict the academic value of these courses at the majority of universities. This agrees with the finding of Margaryan et al. (2015:77) that although MOOCs have created a great “revolution” in education and training, there is uncertainty as to whether they can contribute real pedagogical value to higher education.

Furthermore, learning through MOOCs is designed for general knowledge that can be covered in the limited duration of the courses, which does not follow the specialised and detailed curricula of conventional courses. This shortened process of learning does not ensure a high level of learning outcomes. That is why the universities questioned what the overall outcome of the programme would be, what sort of interests, what kind of education level and how learning outcomes can be assessed, etc. Also, the view of University E in terms of applying different styles of learning to enhance the outcome, was not indicated, because the outcomes of learning are largely criticised. In contrast, the universities design the learning outcomes of conventional programmes based on the professional quality agencies, and learning and teaching programmes must have “breadth, depth, pace and challenge appropriate for the learning outcomes, subject and level of study... takes an inclusive approach develops appropriate knowledge, skills and understanding” (UK Quality Code for Higher Education (2013: 12). The quality of learning in MOOCs, however, does not conform to these quality assurance requirements, because it does not specify the kind and level of education, and lacks any assessment of learning outcomes. The quality of learning in MOOCs, also, is not consistent with the findings of studies that indicate that the quality of learning can be seen through the commitment of knowledge and the recruitment of the best students and provision of the best learning experiences (Akalu, 2016). Quality of learning essentially develops independent thinking and leads to improved learning outcomes. That is, learning is the heart of education and the quality of courses is defined through providing the best learning process (Harvey and Green, 1993; Massy and French, 2001). Thus, the procedures with respect to the learning and learning outcomes of MOOCs at these universities were not consistent with the findings of studies.

The analysis also showed that assessment is influenced by the characteristics of MOOCs in that there is a lack of clarity as to the purpose of assessment in MOOCs. Assessment is generally conducted through fairly easy quizzes, and learners need more direct feedback to complete the quizzes, although they may have three attempts at these assessments at the universities (e.g. University B). Even if some of universities seek to improve the quality of assessment, they are obliged to offer assessment based on “the MOOCs environment” and, therefore, assessment should be aligned with the level of content and learning provided to learners. That is why the assessment is seen as lacking quality and why it is designed to be the same, regardless of what resources or level learners require. In this context, studies have criticised the assessment of MOOCs on the basis that it still lacks the quality required in higher education (Vista et al, 2015; Wei and Wu, 2015). Studies indicate that assessment measures the learner’s achievement and progress in a learning process (Prakash and Kumar, 2012) and it reflects the outcomes and quality of learning and the performance, as well as the experiences and added value provided to students (Brown, 2004; Martin and Stella (2007). However, it can be said that assessment in MOOCs does not reflect the outcomes and quality of learning and performance as previous studies indicated, because it is designed to different types of content and learning programmes that have different feature and characteristics.

#### **6.4 Quality Assurance and Organisational Culture**

This section responds to sub-research question four, which is:

*How does the quality of MOOCs develop through the cultural norms of higher education institutions?*

The literature advocates that an assessment of organisational culture is required when implementing quality management. Organisational culture has a crucial impact on the implementation of new practices and affects the execution of quality management (Maull et al., 2001; Cole and Matsumiya, 2007). Organisational culture can underpin quality management and institutions can develop a range of supportive cultures depending on local contexts and events (Wagner et al., 2014). This section highlights the influence of the universities’ cultures on the implementation of quality assurance of MOOCs and analyses the extent to which the evidence from this study agrees with the literature that indicates that

quality assurance cannot succeed unless it is supported by the institutional culture (Campbell and Rozsnyai 2002).

#### 6.4.1 Constraints (challenges) of Culture

The analysis points out that the development of the quality assurance of programmes is restricted by more conservative, risk-averse culture rather than those that value innovation. Also, the development of new technological innovation is not a main priority in the culture of the majority of universities. The analysis has revealed that the culture of universities influences the quality assurance of MOOCs through indirect and direct perspectives.

From a broad and indirect perspective, traditional and more conservative university cultures value conventional, in-person programmes and approaches rather than new innovations. This preference for conventional courses means that universities focus more on the quality assurance of their conventional programmes rather than MOOCs. The culture of the majority of universities (A, C, D) is more conservative and not flexible enough to support the development of new innovation, including MOOCs. These findings correspond with the results of several other studies that show that the quality assurance of technological innovation is still limited in higher education institutions due to limited support in the organisation (Hope, 2014; Ellis et al., 2007; Hughes, 2012).

In this study, the analysis indicates two main reasons behind the constraints of conservative culture in respect to the development of quality assurance for new innovation, both of which are also in line with the literature. Firstly, the majority of university staff are used to the conventional approaches to teaching and learning and they are not willing to change that approach to accommodate new innovation. This supports the findings of Cole and Matsumiya (2007) that institutions can fail in the implementation of quality assurance, unless they take into consideration the influence of institutional culture on technological innovation. Also, the lack of cultural support for innovation is consistent with the finding of studies that the variables of organisational culture, such as ideologies, expectations and attitudes can influence the implementation of new programmes, including MOOCs (Lund, 2003; Marcy, 2014). Secondly, these innovative programmes (MOOCs) are still not clear enough and they are sometimes seen as a threat to conventional programmes, and the fear in the organisation of the potential impact of innovation on conventional programmes seems to be one of main

concerns that impedes the development of MOOCs in general. In this context, Campbell and Rozsnyai (2002) indicate that quality assurance cannot succeed in supporting innovation unless it is supported by the institutional culture. Thus, the close links between conventional approaches to teaching and learning and conservative university culture serves to hinder the ability to enhance the quality of innovation at the majority of universities.

In a closer and more direct perspective, conservative university culture directly impedes improvements in the quality assurance of MOOCs in several ways in the majority of universities. For example, MOOCs are still seen as an expensive hobby designed for general learning and are thus very different from traditional academic learning, and there is no legal requirement to improve their quality assurance. Also, because the universities focus on traditional approaches to learning and teaching, they do not look to the quality assurance needs of MOOCs' learners in the same way as they do to those on conventional courses. In addition, university academic staff tend to keep their conventional approaches to teaching and learning, because these approaches promote their individual and institutional reputations. The conventional approaches have already attracted students from abroad and enhanced the competitive position of the university. In tandem with this, academic staff seem to be convinced that there is no clear justification for abandoning the conventional approaches and adopting innovation that may compete with these approaches. That is why MOOCs staff describe the development of new MOOCs in departments as like "a battle" with academic staff.

#### 6.4.2 Potential Support of Culture

The analysis of the data in Chapters 4 and 5 indicated that, although the traditional university culture supports the conventional courses, there is some support for MOOCs at the universities that seek to develop an innovative culture. Table 6-1 shows a summary of the acceptance of MOOCs at the five universities and the opportunities for the improvement of quality assurance.

Universities	Summary of views	MOOCs acceptance	The opportunities for MOOCs enhancement
E	MOOCs are pure academic innovation; they can be provided in a wide range of subjects. However, MOOCs are provided to diverse learners rather than to university students.	MOOCs are accepted for overseas learners.	Enhancement is highly possible.
B	MOOCs should be provided, as other universities provide them. However, the staff misunderstand their role.	MOOCs are accepted, but with challenges	Enhancement is possible, despite challenges.
A	MOOCs can be provided in a wide range of independent learning. However, the staff do not recognise the role of MOOCs sufficiently.	MOOCs are accepted, but with challenges	Enhancement is possible, despite challenges
D	There are no legal requirements for providing or developing MOOCs. However, the university realises that learning programmes should be supported by new technologies.	MOOCs are still vague and not sufficiently accepted.	The opportunity for the enhancement is restricted.
C	The university is still misunderstanding the role of MOOCs and that is why it is difficult to fully engage in these courses widely. However, the use of technologies may complement the strengths of the university.	MOOCs are not sufficiently accepted - there is only some support.	The opportunities for enhancement are insufficient.

**Table 6- 1: MOOCs acceptance and quality assurance**

As shown in Table 6-1, there are different views in regard to MOOCs that reflect different levels of acceptance at the five universities. While there is less acceptance of MOOCs at Universities A, C and D, the most acceptance can be seen at Universities B and E, which should help to develop the quality assurance of MOOCs. The level of acceptance MOOCs is



linked with is reflected in the culture of the universities. For example, one of the main reasons for accepting MOOCs at University E is that it sees MOOCs as a pure academic innovation that universities provide in a wide range of subjects. However, the main motivation for University B to provide MOOCs is that the university should provide the same programmes as its competitors. Whereas the relative lack of acceptance of MOOCs at other universities A, C and D, arises from various views that reflect their culture, such as a misunderstanding of the role of MOOCs - even though they still provide these courses. This analysis reveals several reasons behind the acceptance of MOOCs at universities, and the relationship between the culture of acceptance and the development of the quality assurance of MOOCs.

- 1- The majority of universities are described as leading universities, and they seek to prioritise competing in new technologies in higher education. Accompanying this, they seek to enhance the quality of their programmes to protect their reputation.
- 2- The universities aim to keep pace with the adoption and development of technologies from different angles, and this helps them to develop MOOCs, such as looking at MOOCs as a fashion (University B), looking at MOOCs as pure academic programmes (University E and D), and the commitment to develop independent learning (University A).
- 3- The expectation of the benefits of MOOCs at the five universities, such as the market and reputational support, enhancing the experiences of learning, developing staff skills, etc.
- 4- MOOCs are more accepted at the universities that already provide online courses, such as universities B and E, due to MOOCs having a close relationship with these online courses.

The reasons for accepting MOOCs alongside conventional programmes seem to indicate that the universities are developing new “values, attitudes, norms”. The literature suggests that this helps to develop the culture of institutions (Wagner et al., 2014). Also, this new development in the culture of universities towards enhancing MOOCs is consistent with the literature showing that universities, as complex organisations, have competing visions, and

can transform from traditional universities to entrepreneurial universities (Clark, 1998). Quality management, in this context, can be understood from the perspective of the patterns of values and assumptions (Bright and Coope, 1993), and it can be managed from the perspective of cultural change (Irani et al., 2004). Quality assurance at these universities, therefore, seems to be linked with not only “a single, identifiable culture” that responds to conventional programmes, but also with a “pluralist” culture encompassing dissimilar cultural dimensions (Prajogo and McDermott, 2005:1102).

Furthermore, the development in the culture of universities related to the acceptance of MOOCs is consistent with the principles of institutional theory. In this context, Meyer & Rowan (1977) state that:

*Many of the positions, policies, programs, and procedures of modern organisations are enforced by public opinion, by the views of important constituents, by knowledge legitimated through the educational system, by social prestige ... such elements of formal structure are manifestations of powerful institutional rules which function as highly rationalized myths that are binding on particular organisations.*

Providing MOOCs by the same academic staff as teach conventional courses proves that the universities seek to achieve a high degree of rationalisation. In addition, institutional theory demonstrates that rationalisation of institutions is causing their isomorphism (DiMaggio and Powell, 1983) and institutions policy can be derived by the mimetic isomorphic (Csizmadia 2006; Enders and Westerheijden 2014; Maringe and Sing 2014). In this respect, universities believe that they provide MOOCs because they have similar features, such as membership of Russell group, leading universities, provide high quality programmes, and are also considering MOOCs as a fashion that should be adopted (for University B). The rationalisation of universities can be a trigger to enhance the quality of MOOCs alongside conventional programmes. In tandem with this, “as an innovation spreads, a threshold is reached beyond which adoption provides legitimacy” (DiMaggio and Powell, 1983: 148). Thus, although the procedures on quality assurance are still loosely and vaguely applied to MOOCs, the development in the universities’ culture can help to enhance the quality of MOOCs.

## 6.5 The Model of Quality Assurance Relevant to MOOCs

This section responds to sub-research question 5, which is:

*To what extent do MOOCs need a new model or new criteria of quality assurance to be applied with regard to their learning and assessment processes?*

The analysis in both the within case and across case analysis chapters reveals that the evidence on the relevant quality assurance approach can be seen from three viewpoints, which are the quality approach applied to conventional courses, a new quality approach designed specifically for MOOCs, and adherence only to the current standards offered by the MOOCs' platforms. The most accepted quality approach for MOOCs, however, is a combination of the conventional approach to quality assurance in higher education and a new quality assurance approach that takes into consideration the characteristics and features of MOOCs. In this context, studies on MOOCs have revealed that these courses should not be a part of the higher education teaching and learning programme unless they are involved in the accepted quality assurance approach (Fernández et al., 2015; Langen and Bosch, 2014; Margaryan et al., 2015). This section is focusing on the criteria through which the approach is selected, as well as the relevant approach of quality assurance to MOOCs.

### 6.5.1 Perspectives on Quality Approaches

The decision as to which quality assurance approach is most appropriate for MOOCs seems to be derived from different perspectives: the flexibility of traditional culture and the acceptance of the new development (innovative culture), the benefits that the universities look for from MOOCs, and the process of higher education programmes. In this respect, the use of a new approach to the quality assurance of MOOCs seems to be derived from the traditional university culture supporting only conventional programmes rather than new technologies and innovations. Also, the quality assurance approach used in conventional programmes is considered too heavy handed for MOOCs, and this is the main reason why University A suggested designing a new approach for MOOCs. Moreover, the aspirations to develop the process of MOOCs, specifically in relation to content, learning and assessment - alongside the influence of conservative culture - was a critical reason that led Universities D to suggest

adopting the common approach of quality assurance. Furthermore, the benefits of MOOCs, in particular, the market benefits, seem to be a major reason to use only the platforms criteria to enhance the quality of MOOCs, because these criteria already support the universities to attract students from abroad to join their conventional programmes. In this respect, Horn and Christensen (2013) indicate that MOOCs can change the “quality definitions” in the marketplace because MOOCs can offer courses based on employer demand. The desire to change the “quality definitions”, however, arises from the authors’ belief that MOOCs are disruptive innovation in higher education. Nevertheless, many of the studies treat MOOCs as academic programmes and many of the criticisms of MOOCs are derived from the gap between these courses and conventional higher education. In general, therefore, the literature looks at MOOCs as academic programmes that need to be developed according to common quality approaches, rather than adopting approaches that may not align with conventional programmes.

#### 6.5.2 The Relevant Approach of Quality Assurance

The main quality assurance option at the case study universities seems to be combining the features of MOOCs with the conventional approach. That is, developing a new quality approach to MOOCs is not enough to enhance MOOCs, as long as the universities seek to use the technologies to enhance their conventional programmes. Firstly, there are several benefits that MOOCs are expected to offer and underpin conventional programmes, such as supporting the learning experience and eLearning. Also, the majority of universities develop a new culture (innovative culture) that takes into consideration the importance of new technologies and MOOCs in higher education. Secondly, MOOCs can represent a new development in online and distance learning, and they differ from conventional programmes only in the depth of the process and requirements, and the need to assure their accessibility and usability. Therefore, the universities seek to maintain the rigorous procedures that enhance the quality of all their programmes, including MOOCs, to harmonise with the global market needs. This view is consistent with the findings of several studies that the higher education system has been affected by the globalisation of quality assurance, and quality assurance is moving towards international standards accepted in cross-border higher education (Martin and Stella, 2007; Yung-chi Hou, 2014; Enders and Westerheijden, 2014b). Quality assurance supports societies through students and the standards should be harmonised with the needs of a competitive market (Quinlan, 2014; Massaro, 2010).

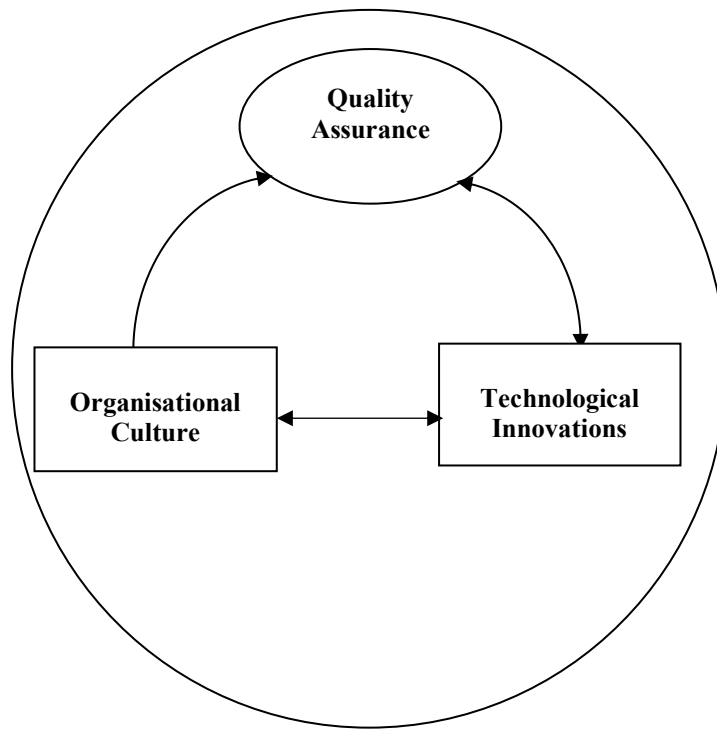
Moreover, the need to develop MOOCs as academic programmes implicitly reflects the need to use a common approach to quality assurance. In this respect, studies indicate that, compared to conventional programmes, the main gaps of MOOCs that need to be addressed, are content, teaching model, adaptive learning, assessment, pedagogical values and curriculum (Daniel et al., 2015; Wintrup et al., 2015; Russell, 2014; Fernández et al., 2015; Morris, 2013). These are the same areas that the common quality assurance approaches are applied to, and therefore, the common quality assurance approaches can be applied here.

Applying an approach that combines the features of MOOCs with the conventional approach is still a challenge, however. On the one hand, MOOCs are still in development at the universities, on the other hand, the empirical research indicates quality challenges related to online programmes generally that have not been addressed (Hoecht, 2006; Jara and Mellar, 2010).

Therefore, although the universities pursue an approach that combines the features of MOOCs with the conventional quality assurance approach, and although empirical studies indicate the need for such an approach, other studies have indicated that there are challenges related to this. However, the conventional quality assurance approach is still a critical one that helps to develop the quality assurance of MOOCs.

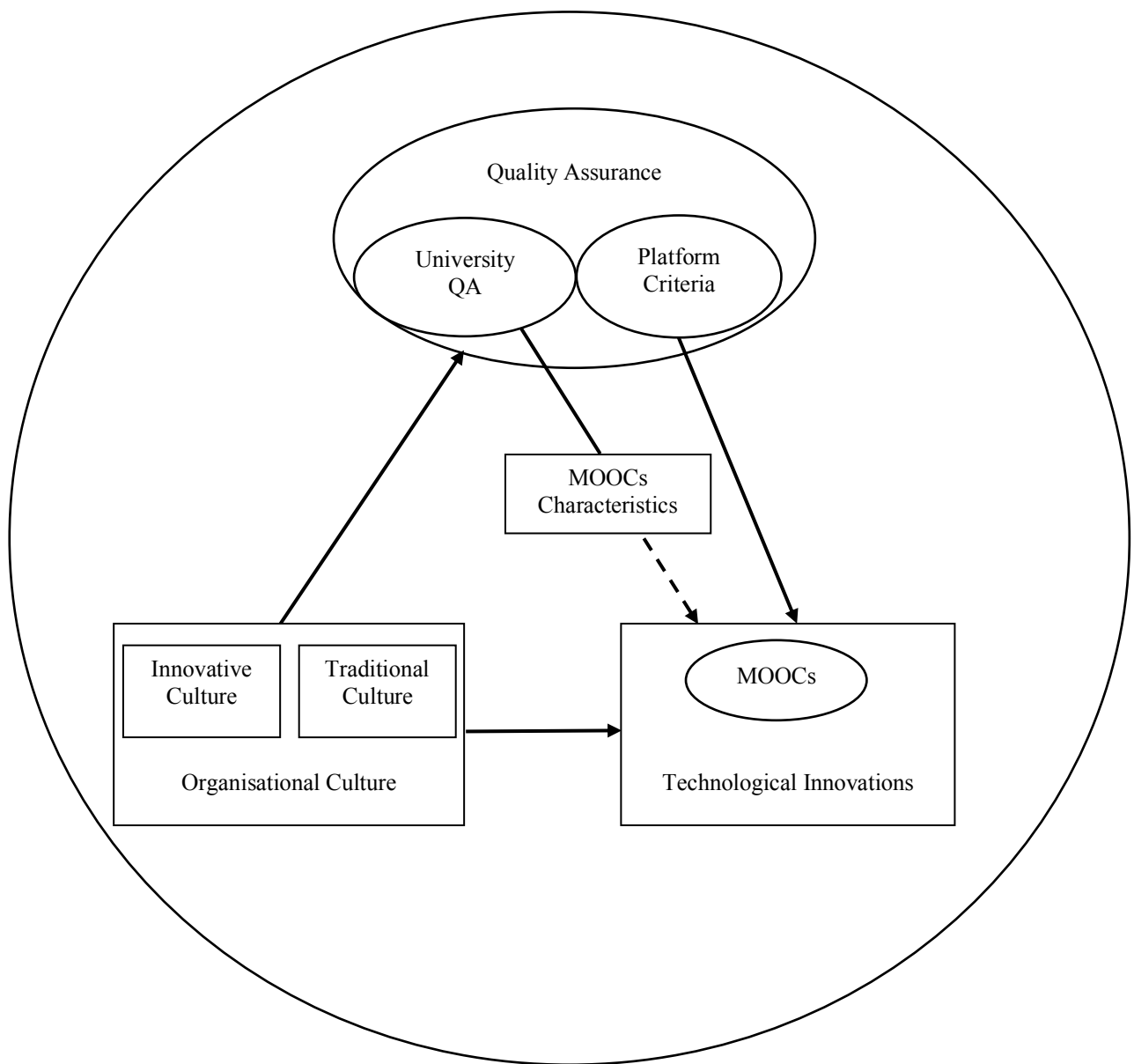
## **6.6 Revising the Conceptual framework**

This section revisits the initial conceptual framework of this research that described the relationships between innovation, quality assurance and organisational culture that the literature indicates. The initial conceptual framework (Figure 6-1) has informed the research, specifically in relation to data collection and analysis.



**Figure 6- 1: The initial conceptual framework**

However, this research has revealed some need to develop the relationship between quality assurance and innovation in this framework, although findings reinforce relationships between organisational culture and both quality assurance and innovation. Therefore, the findings have led to some modification to the initial conceptual framework. Figure 6-2 shows the new modification to the conceptual framework based on the findings of the research.



Note: The dotted line refers to limited influence/ relationship

**Figure 6- 2: The conceptual framework based on empirical findings of the research**

Overall, the new developments and changes to the framework that the analysis indicated are as follows:

Firstly, the findings of the research have revealed that the relationship between innovation and quality management is much more complicated in relation to technological innovation (i.e. MOOCs) in higher education institutions than was initially thought. The literature indicates that quality assurance affects innovation, either hindering or supporting it. However, the relationship seems to be more complex with regard to technological innovation that are applied in higher education (Marcy, 2014; Hoecht, 2006). The findings of the research indicated that common procedures of quality assurance are loosely and vaguely applied to MOOCs. While MOOCs' light processes are applied to MOOCs according to the platforms' criteria, the procedures of common quality assurance, which are designed for conventional courses, are much more rigorous.

Secondly, the findings indicate that the characteristics of innovation (MOOCs) can considerably restrict the application of quality assurance procedures. These procedures are not flexible enough to adapt to the characteristics of MOOCs. In other words, the quality assurance procedures have minimal influence on technological innovation because of the particular nature of the characteristics of MOOCs. This is shown by a dotted line connecting quality assurance and innovation in Figure 6-2. The characteristics of MOOCs do not match the procedures and criteria requirements of quality assurance at the universities studied.

Thirdly, MOOCs respond mainly to the criteria of platforms, which are specifically designed for these courses. Therefore, Figure 6-2 has an additional line representing the influence of platform criteria on MOOCs. Although platforms' criteria include indicators on the whole MOOCs development process, they do not provide the same level of rigour as the quality assurance procedures applied in conventional higher education courses. Even if MOOCs closely respond to the criteria of platforms, there is no evidence that these criteria enhance the innovation because they do not fit the standards of quality assurance in higher education.



Fourthly, the relationship between quality assurance and MOOCs is affected by the culture of universities, particularly whether the universities adopt a traditional conservative culture, or they seek to develop a new innovative culture. These two specific types of organisational culture are added within the overall concept of organisational culture in Figure 6-2. Even if the universities vary in their levels of traditional culture, it does not favour innovation such as MOOCs, and it places minimal importance on quality assurance. Therefore, there is limited support generally for the development of MOOCs within the traditional university culture. Innovative cultures embody some flexibility towards developing technological programmes in general. They, therefore, accept and support MOOCs and also place greater importance on enhancing the quality of MOOCs. However, innovative culture is still limited at the majority of universities. Thus, the empirical findings of this study are consistent with literature in relation to the influence of organisational culture on both quality assurance and innovation. They specifically show the support of both innovation and quality assurance that seems to be found within innovative cultures rather than traditional cultures.

## **Chapter Summary**

This chapter has discussed the case findings in relation to the existing literature. The central research question has been addressed through the response to the sub-research questions that occur across all five case studies. Revisions were also introduced to the conceptual framework based on how the case findings relate to the literature.

Chapter seven concludes by explaining the contributions and limitations of this study, and suggestions for further research.

## **Chapter 7: Conclusion**

This study has considered the common concern of quality assurance in higher education institutions. It specifically examines the relationship between quality assurance and innovation in the context of MOOCs; i.e. whether quality assurance serves to enhance MOOCs or whether it hinders the development of this technological innovation at institutions in the United Kingdom. The organisational culture has been considered as a particularly important factor that can influence quality assurance and innovation in higher education institutions. Institutional theory has been used in this study in order to understand why institutions adopt new innovations in the absence of the quality assurance commonly required in their programmes, even though these institutions have a strong reputation to protect. This final chapter draws conclusions, considering the contribution of the study, practical implications, and the limitations. Section 7.1 addresses the contributions to literature. Section 7.2 proposes the practical implications. Section 7.3 presents the limitations of study. Section 7.4 suggests possible future research.

### **7.1 Contributions to Literature**

The current study has advanced knowledge and debates in respect of the relationship between quality assurance and technological innovation in organisations, in particular, those technological innovations that compete with conventional modes of higher education. MOOCs are becoming more widespread, and their interaction with well-established quality assurance processes in higher education offers an excellent context to study this phenomenon.

#### 7.1.1 Contributions related to the Relationship Between Quality Assurance and Innovation

The study has provided unique insights into the relationship between quality management and innovation. It supports arguments found in the literature that quality assurance may inhibit innovation (Hoecht, 2006; Cole and Matsumiya, 2007; Kim et al., 2012b). The study also highlights the importance and influence of the characteristics of the innovation on this relationship, because the quality management support can depend on the type of innovation rather than innovations in general (Igel, 2005; Cole and Matsumiya, 2007; Blank and Naveh, 2014; Lee, 2015). Since MOOCs are new learning innovations that have not been well explored, the context of quality assurance is a way of investigating how these innovations

relate to established practices within the organisation. Thus, this study also provides insight into the barriers to innovation, including the organisational culture and its influence on quality assurance.

#### 7.1.2 Contributions related to Gaps in the Literature on Technological Innovations

The second contribution to knowledge relates to organisational culture, quality assurance and technological innovation, particularly in higher education environments. The academic literature describes higher education institutions as complex organisations (Bartell, 2003), and technological innovation, including MOOCs, seems to receive negative responses in these organisations, according to the literature (Langen and Bosch, 2014; Daniel et al., 2015; Fernández et al., 2015). Traditional university culture tends to support the conventional programmes and approaches to teaching and learning, but it does not support innovative programmes, such as MOOCs that may compete with conventional courses. Therefore, the quality assurance of MOOCs remains under-developed and neglected in relation to other courses. Thus, the study has established a clearer understanding of how organisational culture influences quality assurance in the context of change and innovation.

#### 7.1.3 Contributions related to a Framework for MOOCs in Higher Education

The third contribution focused on the pressing need for evidence about MOOCs in higher education. There is growing debate within the literature concerning the role, value and quality of MOOCs in higher education (Fernández et al., 2015; Yepes-Baldó, 2016; Olsson, 2017). Due to the fact that MOOCs are still emerging, these contradictory views seem to reflect limited knowledge about and experience of these innovations. Thus, this study contributes empirical evidence to the ongoing debates about MOOCs, to help develop broader lessons about their quality and role.

### **7.2 Practical Implications**

This study allows higher education institutions to understand the interplay and integration between their conventional programmes and programmes using new technologies, represented here by MOOCs. Although universities provide MOOCs, there is still no clear strategic view in relation to the future of these technologies. This study therefore contributes

empirical evidence on the context of the quality of technological innovation, which has been widely discussed in both academic and policy spheres, but has not been well studied empirically.

Firstly, the findings of the study show the need to develop the quality assurance of MOOCs in higher education, taking into consideration the challenges with regard to the development of their quality assurance that have been indicated. In this context, the universities should look at quality assurance requirements from the angle of their compatibility with the conventional programmes that they provide. These criteria and requirements of quality assurance may not completely align with the needs of new styles of programmes, such as MOOCs, however, even if the quality assurance criteria and processes need to be adapted to some extent.

Secondly, this study helps to understand the role of the specific characteristics of MOOCs in the development of their quality assurance. The characteristics of MOOCs (e.g. the nature of content, assessment and the types of learners) present critical challenges that impede the application of common quality assurance processes and criteria. Some of these characteristics are influenced by the platforms' criteria, and that is why considerable development of quality assurance is needed for MOOCs. For example, the "light" content of MOOCs does not meet the requirements of the "rigorous" content used in higher education courses. Another challenge that concerns the nature of MOOCs as digital learning programmes, is the lack of common features of learning, such as face-to-face student discussions, and the clarity of learning outcomes. The enhancement of MOOCs quality, therefore, needs to address the characteristics of technological innovation represented by MOOCs. Quality assurance, as applied to conventional courses, cannot align with the needs of MOOCs without taking into account the characteristics of MOOCs.

Thirdly, the influence of organisational culture and the complexity of the higher education environment at the majority of universities must be taken into consideration when developing quality assurance for MOOCs. That is, the acceptance of MOOCs is still limited and restricted by the traditional culture in the majority of universities and, therefore, there is a need to bridge the gap in order to create an organisational culture that supports quality in innovation. Universities need to encourage this change in respect to educational innovation by raising the awareness of staff to the importance of new technologies. In this way, the acceptance of MOOCs will be increased, and this will create an environment that supports the enhancement

of their quality.

Fourthly, the strategy of universities is to give greater attention to developing the conventional higher education programmes, while the procedure held by the majority of universities, with respect to MOOCs, is still unclear. This strategy may lead to the neglect of new programmes, including MOOCs that have not yet been well developed. For example, the funding support has clearly affected MOOCs at the universities that operate within local higher education systems (limited funding support at Universities D, and much more funding support at University E). If the universities offer flexible structure of funding support towards the development of MOOCs, then this may reduce the challenges in relation to quality assurance. Therefore, a clearer strategy is needed with respect to how MOOCs can be developed alongside other higher education courses.

Fifthly, the evaluation of the outputs of MOOCs is vital to their development and thereby the enhancement of their quality. If the universities evaluate MOOCs based on research evidence about the real benefits that MOOCs can offer, they will be able to identify the strengths that can be exploited, and the weakness that need to be developed. Feedback collected from learners taking MOOCs could be one source of evidence for these strengths and weaknesses. This would also help to develop an understanding of how MOOCs might support and be integrated with higher education.

Finally, the findings of this study might be used to develop a theoretical framework for the quality assurance of technological innovation in higher education. MOOCs can enhance the processes of higher education through the quality of learning and assessment they offer when these challenges are addressed. It is hoped that the study may also help to inform future research on technological innovation in higher education.

### **7.3 Reflections on the Research limitations**

Although the study provides several contributions, it has some limitations. MOOCs are still new in higher education generally and have also only recently been launched in UK higher education, but this provides an opportunity to explore the quality assurance of MOOCs in practice. It is important to recognise the limitation of this study, and for this to be taken into

account when considering further research. Therefore, the limitations of this study can be seen in several areas, which are as follows:

Firstly, there was a limitation in terms of the dynamics and context of the relationship between innovation and quality assurance in the higher education sector. Although several studies have addressed the relationship between innovation and quality management, these have mostly examined partial rather than comprehensive relationships, such as focusing on total quality management rather than quality management or quality assurance. That is, total quality management is used in many sectors of industry, but the literature on higher education stresses the inadequacy of this quality management approach in higher education (Jauch and Orwig; 1997, Hoecht; 2006). This limited approach to quality management in higher education may only provide a partial overview rather than the whole relationship between quality management and innovation.

Secondly, the literature on MOOCs still lacks well-established findings with respect to their academic role and the scope of development. While some studies have described MOOCs as academic programmes in higher education (e.g. Russell, 2014; Gore, 2014), other studies have described them as marketing tools, training programmes, awareness programmes, etc. (Clarke, 2013; Macleod et al., 2015; Langen and Bosch, 2014; Gore, 2014). Therefore, although the evidence in respect to these claims has not been explored sufficiently, the development of MOOCs needs clear literature that identifies the role of MOOCs in higher education.

Thirdly, there was a limitation with regard to the number of case studies, which include only five universities. At the present, the Higher Education Statistics Agency indicates there are 167 Higher Education Institutions in the UK. However, there were only 30 universities from these that provided MOOCs at the end of 2016, which was the final date of data collection for this research. This means that the case studies must be chosen from only this group of universities rather than the all UK Universities. The five case studies, therefore, represent a substantial share of those universities that offer MOOCs. Furthermore, writers indicate although cases study approach is relevant to explore new phenomenon in institutions, it is unusual to use a big number of case studies to discover similarities and differences in this kind studies (Bryman, 2012).

Fourthly, there were some limitations regarding the data collection in this study, in respect to both interviews and documentation. In the majority of universities, the MOOCs staff were few and it was challenging to find interviewees who have good experiences and a clear view on MOOCs. Also, some documents describe MOOCs based on the aspirations of universities and, sometimes, in promotional terms rather than evaluating the learning in these courses. Also, the documents were generally limited in terms of how clearly they set out the practices followed in MOOCs generally. For example, the documents usually defend or criticise the quality assurance of MOOCs, but they do not describe in detail how and why the quality of MOOCs is acceptable or not acceptable.

Fifthly, there were some limitations with regard to the process of data analysis in this research. For example, there were some contradictory views between the content of documents and the statements of participants. This reveals a need to understand the reasons behind this contradiction and understand their implications for the findings of the research. Also, in social research, it is necessary to pay attention to the ways in which documents are classified and conceptualised. “What counts as a document, and what meaning we attach to a document, is a complex and multifaceted task” (Coffey, 2014, p. 18). Thus, there are different ways in which it is possible to classify documents for the purpose of social research. The documents available regarding MOOCs do not provide conclusive indicators that help to offer a deep analysis of borders and areas of MOOCs. Thus, this study can generate more studies in relation to understanding MOOCs from other perspectives in the future.

Sixthly, the features of MOOCs have not yet been explored enough in terms of how they align with the mainstream market of higher education. For example, there has not been any clear disclosure about the outcomes of MOOCs in most of the higher education institutions that offer MOOCs, or similarities to face-to-face learning and teaching. The benefits of MOOCs are mostly depending on the expectation of universities rather than conclusive evidence. Without such conclusive evidence, it is hard to reach conclusions about their quality with respect to outcomes.



## 7.4 Future Research

This study has raised a number of issues that could valuably be explored in future research.

Firstly, due to the nature of influence on the implementation of quality assurance, it would be pertinent to carry out further studies on the characteristics of innovation (MOOCs) to explore to what extent they impede quality assurance. The main characteristics that have a crucial impact are the MOOCs design process, background of learners, learning methods, learning outcomes, assessment, and the content of MOOCs. The secondary characteristics that also should be addressed in further studies includes the influence of the duration and subject-matter of the courses, and the feedback from learners. This would allow a deeper understanding of how the relationship between quality assurance and innovation can be reciprocal. That is, the characteristics of innovation may also support or hinder quality assurance, and not just quality assurance supporting or hindering innovation, as most studies have argued. Furthermore, it would be pertinent to explore different relationships between the characteristics of MOOCs, so as to understand the characteristics that have the most influence on the quality of MOOCs.

Secondly, since this study has addressed the influence of traditional higher education culture on innovation, a further study could be conducted to explore the compatibility or incompatibility between this culture and an innovative culture. Such a study could explore the new developments in the culture of universities with regard to accelerated technological development, and how this may compete with conventional higher education programmes, and whether that traditional culture responds to these new developments or not. This study could allow a consideration of the homogeneity or heterogeneity of university cultures.

A final possible subject for future research would be to address the academic benefits of MOOCs. Although these have gained attention at universities, most studies have addressed only their market benefits. The academic benefits of MOOCs represent ambitions for what universities expect to achieve. These expectations need to be supported by academic evidence, however, to prove whether MOOCs are able to offer these benefits. There is, therefore, a need for further study on the academic benefits of MOOCs, that can enhance the higher education sector, especially with regards to how MOOCs can enhance academic learning and research, and how MOOCs can be aligned with the sustainable objectives of universities.



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## Appendices

### Appendix 1: Academic Development

#### 1- Articles

Al-Imarah, A. A. and Shields, R. (2018). MOOCs, disruptive innovation and the future of higher education: A conceptual analysis, *Innovations in Education and Teaching International Journal*. [online], available from:  
<https://doi.org/10.1080/14703297.2018.1443828> [Accessed 8 March 2018].

#### 2- Conferences

Al-Imarah, A. A. (2018). *Quality approaches to MOOCs and the influence of the university culture*, FutureLearn Academic Network Conference, 28 February 2018, University of Exeter, Exeter.

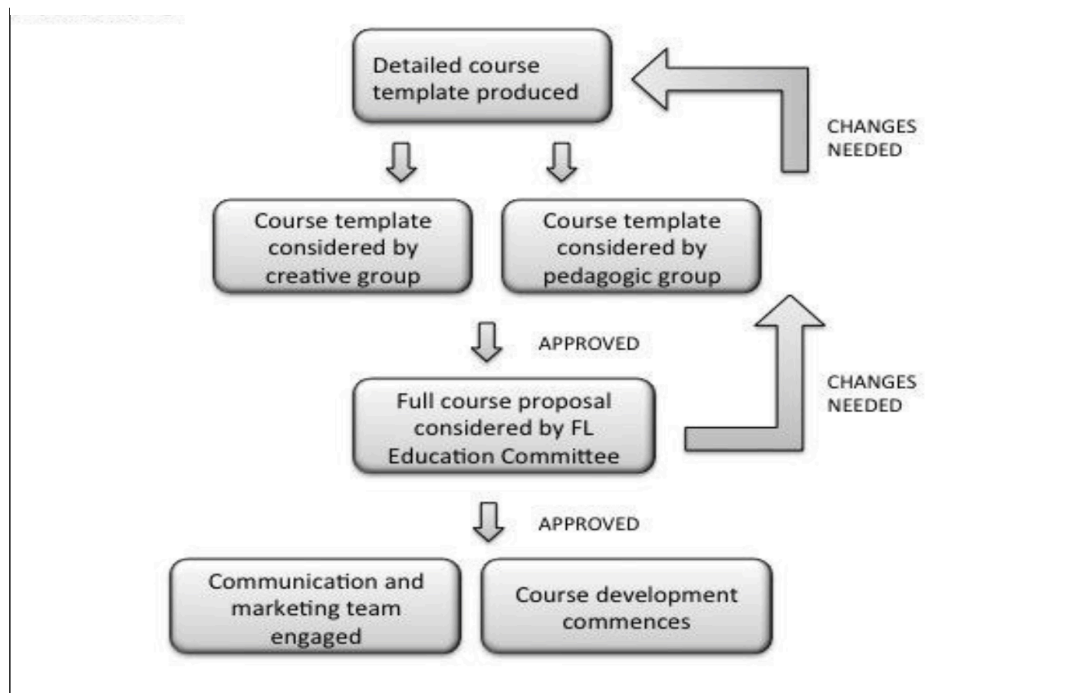
Al-Imarah, A. A. (2017). *Approaches to the quality assurance of massive online open courses (MOOCs)*, the Computers and Learning Research Group (CALRG)/, 16 June 2017, The Open University, Milton Keynes.

Al-Imarah, A. A. (2017). *MOOCs and disruptive innovation: The features and characteristics*, Doctoral Conference 2017: Impact!, 10-11 May 2017, University of Bath, Bath.

Al-Imarah, A. A. (2016). *Quality assurance and innovation: Case studies of massive open online courses (MOOCs) in UK Higher Education*, Bath SOM Doctoral Conference, 31 May-1 June 2016, University of Bath, Bath.

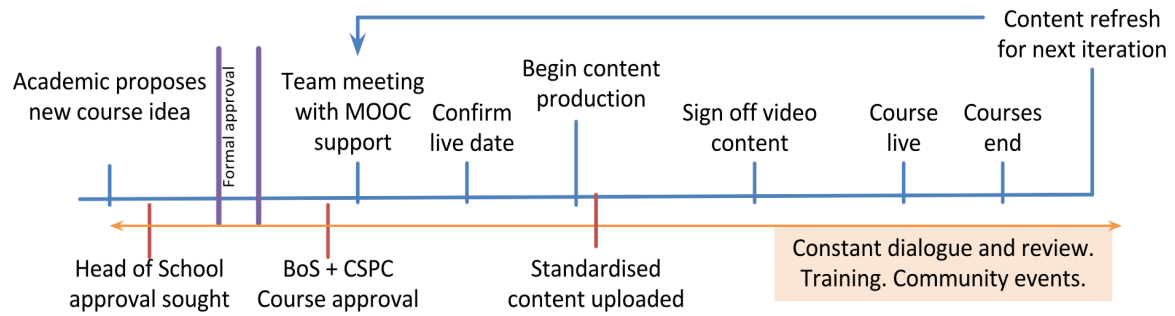


## Appendix 2: An example on the process of MOOCs suggested by Morris (2014)



Source: Morris, N. (2014), Establishing capacity to deliver MOOCs at Leeds: impacts on the University, The Heads of eLearning Forum, [online], [http://helfuk.blogspot.co.uk/2014\\_02\\_01\\_archive.html](http://helfuk.blogspot.co.uk/2014_02_01_archive.html)

### Appendix 3: An example on the process of MOOCs suggested by Woodgate (2014)



Source: Woodgate, A. (2014), Exploring Educational Boundaries, A MOOCs based reflection on Quality and Impact, The Heads of eLearning Forum, [online], [http://helfuk.blogspot.co.uk/2014\\_02\\_01\\_archive.html](http://helfuk.blogspot.co.uk/2014_02_01_archive.html)

#### Appendix 4: The main questions of interviews

The Area of Questions	The Questions
Introductory Questions	<ul style="list-style-type: none"> <li>• Many thanks for agreeing to be interviewed about developing MOOCs at your institution, could you firstly tell me a bit about yourself, the role you play in the university please?</li> </ul>
MOOCs in higher education  (general questions)	<ul style="list-style-type: none"> <li>• Could you tell me how do you see MOOCs in your institution?</li> <li>• Could you explain why your department or institution adopted MOOCs? What is their role in the University?</li> </ul>
Introduction questions to Organisational Culture	<ul style="list-style-type: none"> <li>• What discussions have been going on around the topics of MOOCs in your institution?</li> </ul>
Organisational Culture and MOOCs	<ul style="list-style-type: none"> <li>• How would you describe the culture in your university? (Follow-on):</li> <li>• Is this culture reflected at all in your approach to MOOCs?</li> <li>• If so, how?</li> <li>• What do you think academics, students and professional staff are saying about MOOCs?</li> <li>• How look people (staff, students ...etc.) to the development of MOOCs? What they prefer/criticize?</li> <li>• As your University is young/old, how do you think that affects applying MOOCs?</li> <li>• Let us talk about the number of students at your department and university, do you think that has any relationship with MOOCs? If so, how?</li> </ul>
The Process of MOOCs	<ul style="list-style-type: none"> <li>• How do MOOCs design? Are there any specific requirements?</li> <li>• What is the approval process for MOOCs?</li> <li>• Can you give me some indication of the challenges that staff face when developing MOOCs?</li> <li>• How does the university support the development of MOOCs?</li> </ul>

<p>Quality Assurance (specific questions)</p>	<ul style="list-style-type: none"> <li>• Let us talk about the quality assurance, how do you describe the quality assurance of MOOCs in your institution?</li> <li>• Are the University's quality assurance procedures applied to MOOCs? Why or why not? (Follow-on):</li> <li>• To what extent that they are applied, do they support or hinder the development of MOOCs, why?</li> <li>• Are there any specific standards/criteria that are applied to MOOCs in your institution?</li> <li>• How does the quality of the interface evaluated?</li> <li>• Who is assess the MOCCs' course? (If no) Is the assessment validated or checked in any way? Does any example?</li> <li>• Is the content approved by different members of staff? How, does any example?</li> <li>• How do you deal with post-course feedback from students?</li> <li>• How do you think common approaches to quality assurance could be adapted for use with MOOCs? Do you have examples about current practice?</li> </ul>
<p>Concluding Questions</p>	<ul style="list-style-type: none"> <li>• Why your institution has joined the FutureLearn (or Coursera) Platform rather than other platforms?</li> <li>• Do you have anything else that would like to add, or any questions for me?</li> </ul>

## Appendix 5: An example on the codes and sub codes in NVivo

My Data Analysis

Home Create Data Analyze Query Explore Layout View

**SOURCES**

- Internals
- Externals
- Memos

**NODES**

- Nodes
- Cases
- Node Matrices

**CLASSIFICATIONS**

**COLLECTIONS**

**QUERIES**

**MAPS**

Name	Sources	Referen...	Created On	Created...	Modified On	Modified By
Quality approach	22	31	10 Feb 2017 at 14:21	AL-IMA...	28 Mar 2017 at 13:...	AL-IMARAH
Quality Barriers or supports	10	13	10 Feb 2017 at 14:29	AL-IMA...	24 Mar 2017 at 15:02	AL-IMARAH
Quality Criteria	22	37	10 Feb 2017 at 14:02	AL-IMA...	3 Apr 2017 at 16:37	AL-IMARAH
Quality of learnnig	23	41	8 Feb 2017 at 17:14	AL-IMA...	3 Apr 2017 at 16:37	AL-IMARAH
Quality of MOOCs Interface	12	14	10 Feb 2017 at 14:06	AL-IMA...	23 Mar 2017 at 19:...	AL-IMARAH
Quality process	3	9	9 Feb 2017 at 17:13	AL-IMA...	16 Mar 2017 at 02:17	AL-IMARAH
Checking the quality pr...	19	25	9 Feb 2017 at 17:13	AL-IMA...	24 Mar 2017 at 15:01	AL-IMARAH
Quality procedures for...	20	31	9 Feb 2017 at 17:05	AL-IMA...	31 Mar 2017 at 14:03	AL-IMARAH
Quality team	15	21	10 Feb 2017 at 13:51	AL-IMA...	31 Mar 2017 at 13:36	AL-IMARAH
Student's assessment	4	8	23 Feb 2017 at 18:59	AL-IMA...	31 Mar 2017 at 14:23	AL-IMARAH

Quality procedures for MOOCs

Code Annotations

Summary Reference

**Reference 1: 2.22% coverage**

you can look at quality assurance in two ways, you can look at it in terms of what you do to make sure- you know what you do as a learning designer to make sure that your MOOC is the best learning experience that you possibly can, and what comes into that is just testing, testing like testing everything as you go along, testing stuff with the people who'll be using it, so in this case students, testing it with people around you and sharing your ideas

**Reference 2: 1.28% coverage**

and then there's the more formal quality assurance process, obviously in this case that comes into Future Learn, and Future Learn have got a set amount of time that they put aside for quality assurance, they also have criteria that you need to work against

**Reference 3: 0.53% coverage**

the procedure and the standards will sit with Future Learn, so they've got criteria that we need to meet,

OPEN ITEMS

Quality procedures for MOOCs

## Appendix 6: The codes of participants and background

Universities' code	Participants' code	Statements on background and current role
A	AP1	<i>My job title is e-learning development officer. Essentially I'm a learning technologist, so my role is mainly about innovation in the use of technology in learning and teaching.</i>
	AP2	<i>I'm e-development manager in the institution, so I work for the central e-learning team and our role is to support the pedagogical innovation across the institution.</i>
	AP3	<i>I'm the director of studies for postgraduate taught programmes in the department, also the courses director, and as far as the MOOC is concerned.</i>
	AP4	<i>Currently lecturer but I was teaching fellow and DoS for a distance learning programme when I started the MOOC</i>
	AP5	<i>My role is as a learning enhancement advisor for a particular faculty of the University, so I work with anyone who teaches in the broadest sense</i>
	AP6	<i>I worked on the MOOC I worked specifically to support distance learning, and that's how I got involved in the MOOC because we were already involved in on-line learning at that time</i>
	AP7	<i>I'm a professor of management science within the school of management at the University of (...) It's a full academic position which includes both research and teaching.....I participated in developing a MOOC as you know.</i>
B	BP8	<i>I'm the assistant registrar in the quality office with the specific responsibility for quality and standards. As part of that I support and manage the main quality assurance processes within the university which include our approval monitoring and review processes[.....]that's why I've had some involvement with MOOCS.</i>
	BP9	<i>I'm what's called an educational designer here ... so it is a learning and teaching team within the university, and we work with academic departments and with the university, on all areas of curriculum [.....]we also deal with technology, so we also... we run the university's MOOCs.</i>
	BP10	<i>I'm a member of the teaching staff only, so I don't... I'm not contracted to do research, but I do teaching and I do distance learning development [...] I look after our distance learning students who are working on a range of courses with us</i>
	BP11	<i>I work as an [...] lecturer [...] my specialism to develop a MOOCs in specific connection with the discovery.</i>

	BP12	<i>I'm a learning technologist, um and one of the main parts of my job is working on MOOCs, that's a kind of large percentage of it, but I also work in sort of as a general learning technologist across</i>
	BP13	<i>I'm an educational designer at the (...), and my role with regard to MOOCs is I was part of the first MOOCs that we did with FutureLearn [...] My role then at the early stages was to do the curriculum design and the project management of two of our four pilot MOOCs</i>
C	CP14	<i>I'm head of the education support team and that team is a central University team, that supports learning technology projects, but also the development of new academic programmes, we help academics with their teaching practice, [...] and part of that role has been to be the project manager for MOOCs over the past two years, since we've started doing them.</i>
	CP15	<i>My role on that project was communications and project officer at (...) University, so my role was involved in the promotion of the course and the development of that course.</i>
	CP16	<i>I am a systematic reviewer by background, which means that I find and summarise information to inform practice [...] I started to do quite a lot of teaching [...] the university put out a call who were interested in doing it[MOOC], and my line manager supported that.</i>
	CP17	<i>Me and my colleagues in the education support team, are the sort of main support for the academic colleagues who are interested in making a MOOC. We have been doing MOOCs for something like two, two and a half years now, since Future Learn began.</i>
	CP18	<i>I'm a learning technologist here at (...) University, so I kind of help develop learning technology with professional service staff and also with academic staff [...] we support all schools here within this university, and in terms of our work here with MOOCs, we are there to support the academics who want to create MOOCs; think about how they can put what they've got there on paper, electronically and online...</i>
	CP19	<i>I was involved from the beginning. And my role was to support the academics working on the MOOCs, and also the teaching assistants [...] so my role was to provide pedagogical advice and also, because I have a technical background, was also to support them in any way I could in terms of assessments or technical aspects.</i>
	DP20	<i>I'm just finishing my PhD at the moment [...]. But within the archaeology department I've been teaching part-time on and off for about 6½ years [...] I'm quite interested in digital content in my own research and teaching work within [...], and I've done a lot of work with social media and online content and community engagement as well...</i>
	DP21	<i>I have been teaching [...] for many years, but since 2011, I was given an additional role as director of technology for enhanced learning, which means that I support colleagues across the school whenever they want to use new teaching methodologies, normally methodologies which involve the use of new</i>

D		<i>technology..</i>
	DP22	<i>I am an on-line and blended learning designer [...] and one of the work streams of that project is enrichment courses [...] each course has a MOOC plus off-line activities to go along with that, so I- my role is to work with- so each of the courses has an academic team that's related to it, my role is to work with that academic team.</i>
	DP23	<i>I've been here since the beginning for the year [...] And what we're doing is developing three MOOC courses that will be integrated within this[...] project. So my role here along with my colleague who you already spoke to is to help the academics design those courses, transfer some of the ideas they have into the online MOOC context, and then build those courses in the FutureLearn platform</i>
	DP24	<i>I'm the Technology Enhanced Learning Team manager, and we support staff in using a range of services, hopefully to enhance learning, that's always our aim [...] So MOOCs at this university I think are a way that we are attempting to innovate</i>
	DP25	<i>-I am the TEL – Technology enhanced learning rep [...] I sit on a number of university committees. [...] the MOOC was one of the big school-wide projects, we actually did [...]</i>
	DP26	<i>I'm working on multiple areas of those strands, and one of those is the online course for sustainable future strand because of my subject specialism within the sustainability [...]</i>
E	EP27	<i>I was working on the MOOC project, I was head of digital education for the university, based in the institute for academic development [...] but in the last ten months, I've moved jobs, and I'm now an e-learning developer. But in both roles I provided support and developed MOOCs. So, it's a similar role, just different titles, I suppose.</i>
	EP28	<i>I work in the educational design and engagement team, which is part of the mission services group at the University. The MOOC team is based within the educational design and engagement team, I'm one of the learning technology team managers[...] I've been involved in kind of leading on MOOC developments which are based in our team.</i>
	EP29	<i>I'm acting head of a division of a section called education Design and Engagement, and we are within the central university information services section [...] and we are a team of learning technologists [...] we have the MOOC development team within my section, and we also work on learning design.</i>
	EP30	<i>I'm the MOOC project coordinator and my role is into [ ] and scheduling the live of the MOOC between start to finish internally within the academic teams in the university.</i>
	EP31	<i>My job title is learning technologist. That means I support online learning, blended learning, I also do website support. a lot of the work we do is managing</i>



		<i>VLEs, working with MOOC platforms, we do a lot of filming and editing, post production stuff like that.</i>
	EP32	<i>I'm design coordinator- Learning, Teaching and Web Services Division, I kind of co-lead with [...], part of that um part of that I've kind of been involved in the periphery of MOOC developments prior to that, mainly from the point of view of educational resources, and trying to make sure that the MOOC outputs that we were creating, the videos in particular had open licences on them,</i>

## Appendix 7: Defining the second data approach (documents)

	Code of Documents	Describing the content of documents
A	AD1	The document describes the current MOOCs in general at University A.
	AD2	The document describe the criteria of MOOCs and how they are supported by world-class academic standards
	AD3	The document describes the process of design conventional courses at University A
B	BD1	The document describes evidence on the impact of MOOCs.
	BD2	The document describes the procedures of quality assurance of MOOCs.
	BD3	The document describes the current MOOCs in general at University B.
	BD4	The document provides an example on the MOOCs' benefits
	BD5	The document describes the MOOCs' specifications
	BD6	The document describes the process of design conventional courses at University B
C	CD1	The document describes academical aspects in MOOCs at the university.
	CD2	The document describes the current MOOCs in general at University C.
	CD3	The document describes the process of design conventional courses at University C
D	DD1	The document describes the current MOOCs in general at University D
	DD2	The document describes the first MOOCs at University D
	DD3	The document describes the MOOCs' benefits at University D

	DD4	The document describes the process of design conventional courses at University D
E	ED1	The document describes the current MOOCs in general at University E.
	ED2	The document provides an example on the MOOCs' benefits
	ED3	The document describes the MOOCs' specifications at University E
	ED4	The document describes the creation of new programmes at University E
	ED5	The document describes the requirements of conventional courses at University E.
	ED6	The document describes people that should be engaged in design courses.

## **Appendix 8: The informed consent form**

**Research title:** Quality Assurance and Innovation: Case Studies of Massive Open Online Courses in UK Higher Education

**Research question:** *How do higher education institutions adapt quality assurance to accommodate the technological innovation of MOOCs?*

**Name of researcher:** Ahmed A. T. Al-Imarah  
School of Management, University of Bath

### **Research Aims:**

- 6- To evaluate whether quality assurance supports/hinders innovation in higher education environment.
- 7- To develop a theoretical and empirical framework for technological innovation in a higher education environment.
- 8- To evaluate whether the organizational culture of higher education institutions supports or conflicts with adopting quality assurance for MOOCs.
- 9- To understand the flexibility of quality assurance in supporting MOOCs.

### **Research methods:**

The interview will implement one-to-one with participants and the researcher is seeking your permission *to record your account* in the interview.

Please note the following:

- The recording will continue all through the interview unless you ask the researcher to stop recording or suggest the omission of some parts later.
- Your account will be ***confidential*** and solely used for research purposes.
- Whilst the researcher may publish his analysis of this recording, this will be done in a way that protects your identity and keeps your anonymity, university, department and any other person or entity you mention within your account.

- Identities of lecturers, current and ex-students are protected under the 1998 Data Protection Law. The researcher may not ask you to disclose the identity of any current or ex-students without their consent. If you have any doubts prior to the interview, please contact the student services via **01225 384321** or check the Data Protection Policies <http://www.bath.ac.uk/data-protection/index.html>
- The recording and analysis will only be seen and analysed by the supervisors of the researcher.
- This recording and any data generated from the recording will be **stored securely** and in compliance with the Data Protection Act.
- The researcher may prepare a short report summarizing the accounts of the participants for verification of data.
- You may **withdraw** at any stage by contacting if you do so, the researcher will exclude your contributions to the study in any analysis that he conducts and this will not affect your status now or in the future.
- In case of experiencing unintended harm or negative emotions as a direct or indirect result of the interview questions, you may seek **advice** via **01225 384321** or **extension 4321** from the staff advice line at the University of Bath.

You may contact my supervisor Robin Shields (R.A.Shields@bath.ac.uk) if you require further information about the research, and the Research Ethics officer at management school, University of Bath, if you wish to make a complaint relating to the study or the involvement of the researcher.

### **Informed Consent**

Please tick the boxes below to indicate agreement with the following statements:

I have read the information regarding the project and I understand that I will be participating in the taped interview. ☐

I understand that my participation is voluntary and I am clear about the procedures for withdrawing from the study. ☐

I understand my interview data will be stored securely and that my anonymity will be preserved. ☐

I consent that interview data be used as part of the study ”*Quality Assurance and Innovation: Case Studies of Massive Open Online Courses in UK Higher Education*” ☐

I understand my rights under the Data Protection Policy, Law and Act. ☐

I am happy for the researcher to contact me about continuing to be part of the research project.

You can contact me by email at: aai27@bath.ac.uk

Your email address .....

Signature.....